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# **DESIGN FOR THE EVALUATION OF CHANGES TO MEDICARE'S COVERAGE OF OUTPATIENT MENTAL HEALTH SERVICES**

**Contract Number HHS-100-89-0032**

**Submitted to:**

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**Office of the Assistant Secretary for Planning and Evaluation  
U.S. Department of Health and Human Services**

**Project Officer: Lisa Lang**

**Submitted by:**

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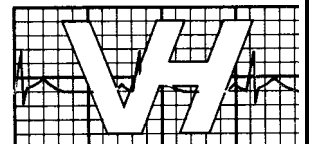
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**February 5, 1992**

**LEWIN-VHI, INC.**

a Value Health company





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## CHAPTER 1 INTRODUCTION AND SUMMARY

### 1.1 Introduction

Outpatient mental health benefits under Medicare were substantially liberalized during the period from 1987 to 1991. Prior to 1987, a special copay rate applied to nearly all Part B outpatient mental health services, making the effective copay rate 50%; total reimbursements for these services were limited to \$250 per year; services provided by clinical psychologists and clinical social workers could not be reimbursed unless provision was incident to the services of a physician; and partial hospitalization services were not explicitly covered. These provisions were consistent with common provisions imposed by private insurers' policies at the inception of Medicare, but over the years private insurers liberalized their own coverage in several ways. The Medicare policy changes that occurred between 1987 and 1991 served to bring Medicare outpatient mental health benefits more in line with those offered by many private carriers. These changes included: (1) gradual increases in, and finally elimination of, the annual limit on reimbursement for non-diagnostic outpatient **services**, including psychotherapy; (2) a reduction in the copay for brief office visits for the sole purpose of monitoring or changing psychotropic drug prescriptions, from 50% to 20%; (3) extension of coverage to services provided by independent clinical psychologists and clinical social workers; and (4) explicit extension of coverage to partial hospitalization programs, **including a** reduction in the copay rate for some partial hospitalization services.

The Office of the Assistant Secretary for Planning and Evaluation (ASPE) in the Department of Health and Human Services (DHHS) has funded Lewin-VHI to develop a design for the evaluation of the effects of these policy changes on the utilization of mental health services and Medicare expenditures for mental health services. The purpose of this document is to describe our recommendations for the evaluation design. ✓

### 1.2 Objectives of the Policy Changes

The objective of the policy changes outlined above was to increase utilization of appropriate outpatient mental health services with the least possible consequent increase in Medicare expenditures. As discussed in Chapter 3, the desire to increase utilization was motivated by a general perception that the elderly, particularly in rural areas, were receiving

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few mental health services relative to their needs. In addition, Medicare beneficiaries who obtained outpatient mental health care often obtained it from general physicians, rather than mental health specialists. This is particularly of concern for elderly beneficiaries, especially with respect to the prescription of psychotropic drugs. The extension of coverage to independent clinical **psychologists** and clinical social workers, the removal of the annual limit, and the reduction in copay for selected services were viewed as ways of increasing the number of Medicare beneficiaries who receive mental health services, increasing the proportion of users who visit mental health specialists, and increasing the intensity of use.

In order to minimize the additional expenditure needed to increase utilization, the coverage changes were structured in a way that was designed to increase use of the most cost effective services. For instance, some mentally ill beneficiaries may be served equally well in either an inpatient or a partial hospitalization setting. Before the benefit changes, Medicare benefits for partial hospitalization were much less generous than those for inpatient care, even though partial hospitalization care is often much less costly. Similarly, for many beneficiaries psychotherapy provided by a clinical psychologist or a clinical social worker may be just as effective as psychotherapy provided by a psychiatrist, but before the coverage changes there were severe restrictions on payments to the former specialists even though they are generally less expensive. Finally, inappropriately low utilization is thought to impose other costs on Medicare, namely costs for physical health services that would not have been necessary had mental health services been provided.

Extensions of coverage to partial hospitalization programs and independent clinical psychologists and clinical social workers were seen as ways to increase utilization that would **also** serve the objective of minimizing additional expenditures. It was also hoped that increased use of mental health services would be accompanied by an offsetting reduction of expenditures for inpatient mental health services and, more generally, for physical health services.

### 1.3 **Evaluation Questions**

The study we have designed will seek to answer a number of “evaluation questions” in order to determine whether the objectives of the policy changes are being met. These questions are given below. The answers to the questions may depend on various characteristics of beneficiaries (including diagnosis), geographical location, extent and nature of secondary insurance coverage, type of service (e.g., psychotherapy and drug monitoring),

and/or the supply of providers. The evaluation will seek to answer the questions for each relevant category.

#### A. Historical Utilization and Expenditure Questions

In order to determine whether the objective of increased utilization is being met, the evaluation will seek to answer each of the following questions:

1. Has there been an increase in the proportion of Medicare beneficiaries who receive outpatient mental health benefits?
2. Has there been an increase in intensity of outpatient mental health services?
3. Has there been an increase in the proportion of mental health services provided by mental health specialists compared to those provided by general physician providers?
4. Has there been a **shift** in the distribution of mental health expenditures from inpatient to outpatient services?

#### B. Future Utilization and Expenditure Questions

In order to predict the impact of future changes in the demographic profile of the Medicare population on utilization of mental health services and Medicare expenditures on those services, the evaluation will seek to answer the following questions:

5. How will utilization of outpatient mental health benefits change with the expected future changes in the demographic profile of the Medicare population, including the increasing proportion of **SSDI** beneficiaries who qualify for **SSDI** due to mental illness?
6. How will Medicare expenditures on outpatient mental health benefits change with the expected future changes in the demographic profile of the Medicare population?

Questions 5 and 6 address concerns about the future use and costs of Part **B** mental health benefits. **Part** of these concerns comes from the liberalization of the coverage, and another part comes from the recent doubling of the proportion of **SSDI** beneficiaries who qualify for **SSDI** because of mental illness. An additional cause for concern is the perception that future Medicare beneficiaries are currently using more mental health services than current

beneficiaries did when the latter were the same age. This difference in utilization is expected to persist as future beneficiaries age into Medicare.

### **C. Questions for Future Research**

Two additional questions, which are not addressed by the proposed evaluation, raise important evaluation issues and are appropriate for future research. These are:

- 7. Have changes in utilization of and expenditures for mental health services been accompanied by an offsetting effect on utilization of and expenditures for physical health services?**
- 8. How, if at all, should outpatient mental health benefits be further changed to increase utilization at minimum, or even reduced, cost?**

Question 8 addresses an important policy issue. Additional changes in the outpatient mental health benefit might serve to increase utilization further at minimal, or even reduced, cost. Alternatively, costs might be significantly reduced with little or no effect on utilization by additional changes in coverage. An example of a policy change that might increase utilization at little cost, or reduce cost with little effect on utilization, is a simultaneous reinstatement of an annual limit and a reduction in the copayment rate. Whether or not such a change is desirable will depend on which groups are affected. A reduction in the copayment rate along with the imposition of a special mental health deductible might also be considered.

### **1.4 Findings**

We were asked to develop an evaluation design that would rely on existing research databases only, including surveys that are planned for the near future. A design that included a large, long term, randomized demonstration would be ideal for answering most of the evaluation questions, but would be unacceptably expensive and would not yield timely answers. Hence, we must do the best we can with data that are either currently available, or will become available in the near future.

For this reason, we have focused our efforts on examining the feasibility and usefulness of various approaches. We considered three alternative approaches, all of which conform to this requirement. While there is some overlap in the three approaches, and some potential for combining the approaches, we think that the distinction is useful for planning purposes. Briefly, these approaches are: (1) track changes in utilization of Medicare benefits from 1988, or possibly earlier, to 1994, relying heavily on the Medicare claims databases of

the Health Care and Financing Administration (HCFA); (2) use data from major health surveys that were conducted in the early 1980s and comparable health surveys that are planned for the early 1990s to analyze changes in utilization of mental health services by the Medicare population from before the policy changes to after the policy changes, and to fill in gaps in the knowledge obtained from the tracking study; and (3) develop a behavioral simulation model to estimate the effects of changes in the policies, using estimates of behavioral parameters that are based on results from past research and additional analyses of existing data.

Our recommendation is that the bulk of the resources for the evaluation be devoted to the tracking study. We also recommend analyses of two supplementary databases. After these analyses are completed, analyses of additional supplementary databases and development of a simulation model should be considered further.

In the next three subsections of this section, we briefly describe each of the approaches, discuss their major merits and problems, and provide the rationale for our recommendations. Our recommendations concerning the projection of future use of outpatient mental health services are discussed in the fourth subsection. A summary table that shows the evaluation questions to be addressed by each of the various studies appears in the fifth subsection.

#### A. Tracking Study

This study would use a 5 percent sample of Medicare beneficiaries selected from **HCFA's** Denominator file merged with the claims data from **HCFA's** National Claims History (NCH) 5 Percent Plus file and its predecessors, the 5 Percent BMAD and MEDPAR files, information on beneficiary characteristics from the Health Insurance Skeleton Eligibility Write-off (**HISKEW**) file, and, for disabled beneficiaries, information from the **Social** Security Administration's Master Beneficiary Record (MBR). By construction, the sample will be a panel data set; with a few exceptions, once an individual is selected to be in the sample, he or she is in it for life. New Medicare beneficiaries are added to the sample every year in a way that insures that the sample will remain representative of all current beneficiaries.

The first task of the evaluator would be to construct merged extracts from the various files that would include extensive information about all mental health claims filed on behalf of included beneficiaries between 1986 and 1994, as well as less-extensive information about non-mental health claims. Ideally, claims data for every year would be included, but cost and data quality problems may preclude analysis of some of the early data. This file would be

merged with a **sample of SSDI** beneficiaries from the MBR who were disabled due to mental illness but who were either ineligible for Medicare or, despite being eligible for Medicare, did not receive services under the Medicare program that year.

The number of beneficiaries in the NCH 5% Plus sample was 707,923 in 1993; hence, we expect the total number of individuals represented in the data used for the nine-year study to be on the order of one million. In a typical year, we anticipate that 35,000 included beneficiaries will have filed mental health claims, and these beneficiaries will be roughly equally divided between aged and disabled beneficiaries. Over the entire period, we expect roughly **50,000** individuals in the sample to have at least one mental health claim. This number could be higher if the liberalization of mental health benefits had a substantial effect on the number of users and on our ability to identify them from claims data. Most of the analyses would use only the data for those with mental health claims, but some analyses would use data for all beneficiaries in the sample.

Once the data sets are constructed, the evaluator would construct tables for each of 10 “analysis topics”. These topics are the building blocks of the tracking study. Each topic is related to one or more evaluation questions, and the answers to some evaluation questions will come from the tables associated with two or more topics. The reason for distinguishing between evaluation questions and analysis topics is that tables that address an individual evaluation question in some cases would be quite complex, and in other cases would be partially redundant for tables that were constructed for other evaluation questions. In contrast, each analysis topic clearly frames a set of tables.

The analysis topics are listed below. They are grouped under the relevant evaluation questions. Each analysis topic that is relevant to more than one evaluation question is stated under the first relevant evaluation question; only the number of the analysis topic is repeated under subsequent relevant evaluation questions. The seventh and eighth evaluation questions are recommended for future research only and, therefore, are not included below.

### **Historical Utilization and Expenditure Evaluation Questions**

1. **Has there been an increase in the proportion of Medicare beneficiaries who receive outpatient mental health services?**
  - I.A **Who receives outpatient mental health **services** under Medicare and have the characteristics of mental health care users changed over time?**



- I.B Who uses the partial hospitalization benefit, and how have utilization of and Medicare expenditures for partial hospitalization changed over time?
- 1 .c. How, if at all, has the utilization of psychotropic drugs changed over time?
- I.D. Are utilization and changes in utilization of mental health benefits in an area related to the number of mental health specialists per capita?
- 2. Has there been an increase in Intensity of outpatient mental health services?
  - 2.A. Has the mix of diagnoses associated with outpatient mental health services changed since the expansion of outpatient mental health benefits?
  - 2.8. Has the mix of therapeutic Interventions associated with outpatient mental health services changed since the expansion of outpatient mental health benefits?
  - 2.c What are the **characteristics** of high users of outpatient mental health benefits and how do they compare to that of low users ?

Other relevant analysis topics: **1.A**, **I.B**, and **I.D**.

- 3. Has there been an increase in the proportion of mental health services provided by mental health specialists compared to those provided by general physician providers?
  - 3.A What specialties deliver outpatient mental health **services** to Medicare **beneficiaries** and has the distribution of **services** and expenditures across specialties changed since the expansion of outpatient mental health benefits?
  - 3.8 Where do Medicare beneficiaries receive outpatient mental health services, and has the distribution of **services** and expenditures across **service** sites changed since the expansion of outpatient mental health benefits?
- 4. Has there been a shift in the distribution of mental health expenditures from inpatient to outpatient **services**?
  - 4.A How have the distribution of utilization of and expenditures for mental health **services** across inpatient and outpatient settings changed since the expansion of outpatient mental health benefits?

## **Other relevant analysis topics: 1.B.**

### **Future Utilization and Expenditure Evaluation Questions**

- 5. How will utilization of outpatient mental health benefits be affected by future changes in the demographic profile of the Medicare population, including the increasing proportion of SSDI beneficiaries who qualify for SSDI due to mental illness?**

**Relevant analysis topic: 1 .A.**

- 6. How will Medicare expenditures on outpatient mental health benefits be affected by future changes in the demographic profile of the Medicare population?**

**Relevant analysis topic: 1 .A.**

The main table for each analysis topic would include means and frequencies for various utilization variables for each year of the study. Year-to-year changes in means and frequencies would then be related to the policy changes and other factors that might have affected the utilization of mental health **services** over the study period. This analysis would be supplemented by stratified analyses, which would examine important subgroups of the Medicare population, and by adjusted analysis, which would control for the effects of changes in the characteristics of the Medicare population.

The major strength of this study is that it would provide accurate and detailed information about actual changes that occurred in the utilization of Part B mental health services. The value of this information alone may make the study worth doing. It will be possible to observe changes in the distribution of mental health care utilization and Medicare expenditures for outpatient services by: beneficiary characteristics (age, sex, race, entitlement status, urban/rural location, etc.); provider specialty (psychiatrist, general physician, clinical psychologists, clinical social workers, and others); site of service (private office, outpatient hospital, mental health center, nursing home, etc.); diagnosis; and therapeutic intervention (various types of psychotherapy, drug management, and a variety of other services). It will also be possible to observe concurrent changes in utilization and Medicare expenditures for partial hospitalization services, inpatient mental health services, and non-mental health services.

The observed changes described in the previous paragraph, and others, will be very helpful in answering the many evaluation questions, but there are several serious limitations to the study's ability to provide definitive answers. These include:

1. It will be difficult to separate changes in utilization that are due to the policy changes from those that are due to many other factors that might have changed utilization over this period. While it should be possible to control for the effects of these other factors to a degree, it will not be possible to completely isolate the effects of the policy changes.

One of the other factors that undoubtedly has affected utilization of mental health services over this period is change in the characteristics of the Medicare population. Panel data are particularly well suited for controlling for such change, and we describe a simple method for doing that. Changes in other factors, such as secular decline in the stigma associated with mental illness, increases in mental health coverage under Medigap **and other** private insurance policies, changes in Medicaid eligibility and coverage rules, changes in Medicare billing and payment practices, advances in the diagnosis and treatment of mental illness, and the introduction of the Medicare physician fee schedule in 1992 are more difficult to deal with.

2. Since the four policy changes occurred more-or-less concurrently, it will be very difficult to separate the effect of each change from the others.
3. The claims data do not provide a complete picture of utilization of mental health services by the elderly, and the completeness of the picture has changed in response to the policy changes.

Prior to the policy changes, there were three reasons why claims would not have been filed for some services of interest: (1) the beneficiary may have reached the annual limit; (2) services provided by clinical psychologists and clinical social workers were not covered unless incident to the services of a physician; (3) partial hospitalization services were not covered. All of these reasons have been removed by the policy changes. Hence, any increases in observed mental health services in the tracking study may at least partially be due to shifts in the source of payment for services.

4. Many claims for mental health services provided by general physicians (**non-psychiatrists**) or services provided by psychologists or social workers "incident to" psychiatrists' services may not be identified as such, and the policy change may have induced changes in the rate and manner of reporting without actually affecting utilization.

This limitation is similar to the previous one. Increases in observed utilization of mental health services may be at least partially due to induced changes in reporting practices.

5. Changes in practices for recording information on claims, and changes in the management of the claims data may make it difficult to make comparisons across years.

We have investigated such limitations, and are quite confident that they will not hopelessly undermine the value of the tracking study. We have not, however, actually analyzed any of the data. Preliminary analysis of the data for the purpose of assessing the extent of data limitations should be a top priority.

6. It may take beneficiaries and providers as long as several years to fully adapt their behavior to the changes in the policies. It is possible that we will not be able to fully observe the effects of the policies by the end of the proposed study period.

To address this possibility, we recommend continuing the study for several years after the initial evaluation. Once the initial evaluation is complete, it should not be very costly to replicate the data collection and analysis for future years. This would also provide a valuable data base for the study of future changes in Medicare mental health policies.

Despite the study's limitations, we think that sufficient **information** of value will be obtained from this study to warrant the study's cost. There is substantial uncertainty about the effects of the policy changes on actual utilization of Part B mental health services; some would argue that the effects are negligible while others would argue that there is a very large positive impact on both utilization and Part B expenditures. The study will be able to determine whether either of these extreme views is true and, if neither is true, it will be able to put reasonable bounds on the possible size of various effects, even though it may not be able to measure them precisely.

## **B. Analysis of Supplemental Data Sources**

We originally approached the examination of supplemental data sources with the purpose of determining whether two or more studies could be used to do a comparative, before-after analysis of utilization of mental health services by Medicare beneficiaries. We have concluded that the data are not suitable for this purpose, -primarily due to the small number of respondents that were both Medicare beneficiaries and users of mental health services.

We now recommend using the supplemental data in a different way: to fill in information gaps in the HCFA claims data. We have considered what types of data and

analyses would be most helpful, given the deficiencies of the tracking study described in Chapter 4, and have investigated the characteristics of major health surveys, data on prescription drug utilization from Pennsylvania's PACE program, data on the disabilities of **SSDI** beneficiaries from the Social Security Administration's Master Beneficiary Record (MBR) and Medicaid data. Our analysis of supplemental data sources indicates that a number of these sources could be useful for addressing issues left unresolved by the tracking study. We recommend however, that only the PACE and MBR data be used for this evaluation; use of other supplemental data sources should be considered for future research purposes only. The data sources that appear to be potentially useful are briefly described below, a complete analysis of the data sources analyzed appears in Chapter 5.

PACE provides prescription drug benefits to Pennsylvania's low-income elderly population. About half of Pennsylvanian's elderly are eligible for the program. The PACE data would provide unique and valuable information on prescription drug use that is essential to addressing the issue of whether the use of psychotropic medications has changed since the Part B mental health payment policy expansions (evaluation question one). An attractive feature of the PACE data is that they are longitudinal, spanning years prior to the implementation of the policy changes to the present (i.e., 1984-1992). Another attractive feature is that they can be matched to the HCFA claims data and have already been matched to some HCFA data (BMAD and MEDPAR) through 1990.

As indicated earlier, the MBR data would also add valuable information to the tracking study. The MBR can be matched to the HCFA claims data to identify beneficiaries disabled because of mental illness. This is an important piece of information because we expect that persons disabled due to mental illness utilize mental health services differently than both other disabled persons and the elderly. We also recommend using the MBR to supplement the tracking study with information on **SSDI** beneficiaries who are disabled due to mental illness but who have not filed Medicare claims during the study year. This would permit a limited analysis of **SSDI** beneficiaries who are either not yet eligible for Medicare or who, despite Medicare eligibility, did not receive services under the Medicare program that year.

Additionally, the following national survey data sources would be useful supplements to the tracking study and should be kept in mind for future research projects: the 1989 National Health Interview Survey Supplement on Serious Mental Illness, the New Beneficiary Survey, the National Medical Expenditure Survey, the Current Beneficiary Survey, and the National Long-Term Care Survey. The Longitudinal Client Survey of Outpatient Programs also looks

promising, but needs to be investigated further. Analysis of Medicaid data should also be considered further.

### **C. Simulation of Behavioral Responses**

Simulation of behavioral responses would draw on past research about behavioral effects of health insurance in general, and mental health benefits in particular. Results of these studies would be used to estimate the parameters of a simulation model, and the model would then be used to estimate the effects of changes in Part B mental health coverage.

If a satisfactory simulation model could be constructed, use of the model to examine the effects of the policy changes would have a distinct advantage over the historical approach taken in both the tracking study and the analysis of survey data: it would be possible to isolate the effects of each component of the policy change from the other components and from other factors that changed during the same period. In addition, the model could be used to predict the effects of other policy changes that might be contemplated in the future.

From a mechanical point of view, it is not difficult to construct a model that adequately captures the possible effects of the policy changes. We report on a prototype for such a model, developed by Dr. Thomas **McGuire**, and outline how it could be modified and used to answer the evaluation questions.

The fundamental problem with this approach is the estimation of the model's behavioral parameters. We have examined the literature on the behavioral responses to changes in mental health coverage, and find that the information available to calibrate important behavioral parameters ranges from adequate at best, to nonexistent at worst. While a major research effort might substantially improve the information available, such an effort does not appear feasible for both cost and time reasons.

We recommend that construction of a Medicare simulation model be reconsidered following the completion of the evaluation. Such a model could be very helpful in interpreting the results of the tracking study and filling in gaps in the information obtained from the tracking study. The model could be used to estimate the size of offset effects and could also provide answers to hypothetical policy questions, such as changes in the annual limit on expenditures and/or utilization, and thus could be a helpful tool for the design of future policy changes. Because of the uncertainties about the size of behavioral responses, an essential

feature of any simulations would be analysis of the sensitivity of the results to plausible changes in the parameters.

#### **D. Forecasting the Future Use of Mental Health Benefits**

Evaluation questions six and seven concern forecasting the future use of Part B mental health benefits. **HCFA's** methodology for forecasting expenditures for a particular Part B benefit, such as mental health, relies on analysis of historical trends in expenditures for the benefit relative to total Part B expenditures and forecasts of total Part B expenditures. An obvious problem with this approach is that any errors in the Part B forecasts will be transmitted into the forecasts for the benefits under consideration. Projections of Part B expenditures rely heavily on: (1) projections of beneficiaries obtained from SSA that incorporate limited information on beneficiary characteristics; (2) the estimation and projection of various trends; and (3) analysis of expected changes in allowed charges.

We recommend a methodology for forecasting mental health utilization and expenditures that does: (1) not rely on forecasts of overall utilization and expenditures; and (2) will incorporate information gathered from the tracking study. The methodology has four stages:

1. Analysis of recent per capita utilization of covered Part B mental health services within various beneficiary groups, and projection of average utilization per beneficiary within each group.
2. Historical and other analysis of Medicare expenditure per service and projection of average expenditure per service.
3. Projection of the number of beneficiaries within each beneficiary group.
4. Projection of total utilization and expenditure, based on the results from the first three stages.

Like current HCFA projections, these projections will rely on SSA projections of **SSDI** beneficiaries and the elderly. Some consideration should be given to enhancing the SSA projections of **SSDI** beneficiaries by using data in **SSA's** Master Beneficiary Record to develop projections for the number of **SSDI** beneficiaries whose initial disability is some form of mental illness. Sensitivity analyses should also be conducted since the projections will rely on numerous uncertain assumptions.

## **E. Summary of How the Evaluation Questions Will Be Answered**

Most of the evaluation questions will be answered, at least to some extent, by the tracking study. Some others will be answered by the forecast methodology, and still others should await future analyses of other data and/or the development of a simulation model. Table 1.1 summarizes how the various studies are related to the evaluation questions. The evaluation questions appear in the first column of the table.

### **1.5 Overview of the Report**

In the next chapter of the report we detail the policy changes that are to be examined by the evaluation. In Chapter 3 we review relevant background information about mental health needs of the elderly and disabled, their utilization of mental health services, Medicare benefits and expenditures for their utilization, and the extent of complementary insurance coverage (Medicaid and Medi-Gap). We also review the policy literature and discuss the expected effects of the policy changes. Details of the plan for the tracking study appear in Chapter 4. This is the most extensive chapter in the report and includes: (1) a detailed description of the data to be used; (2) detailed descriptions of tables to be constructed for the analysis topics, including illustrative shells; (3) and discussion of methods to be used to adjust the data for changes in characteristics of the Medicare population. Our assessment the PACE data, the MBR data, the Medicaid data, and data from a variety of surveys appears in Chapter 5. Chapter 6 contains an extensive description of the simulation model that we believe could serve as a prototype for a Medicare model, along with a discussion of modifications and extensions that would be required in order to address the evaluation questions. We then describe and assess the existing research on behavioral responses to coverage changes. In Chapter 7 we summarize existing information about the supply of providers; this information will be used in order to develop some of the tables in the tracking study. Methods for forecasting the future use of benefit are described and discussed in Chapter 8.



**TABLE 1.1**  
**SUMMARY OF EVALUATION QUESTIONS AND ANALYSES**

EVALUATION QUESTIONS	Tracking Study Analysis Topics										Supplementary Data <sup>1</sup>	Simulation Analysis <sup>2</sup>	Forecast Analysis
	1.A	1.B	1.C	1.D	2.A	2.B	2.C	3.A	3.B	4.A			
1. Has there been an increase in the proportion of Medicare beneficiaries who receive outpatient mental health services?	x	x	x	x							X	X	
2. Has there been an increase in intensity of outpatient mental health services?	x	x		X	X	X	X				X	X	
3. Has there been an increase in the proportion of mental health services <b>provided</b> by mental health <b>specialists</b> compared to those <b>provided</b> by general <b>physician</b> providers?								X	X		X		
4. Has there been a shift in the distribution of mental health expenditures from inpatient to outpatient services?		X								X	X	X	
5. How will <b>utilization</b> of outpatient mental health benefits change with the expected future changes in the demographic profile of the Medicare population, including the increasing <b>proportion</b> of <b>SSDI</b> beneficiaries who qualify for <b>SSDI</b> due to mental illness?	X												X
6. How will Medicare expenditures for outpatient mental health benefits change with the expected future changes in the demographic profile of the Medicare population?	X												X
7. Have changes in utilization and expenditures for mental health services been accompanied by an offsetting effect on <b>utilization</b> of and expenditures for physical health services?											X	X	
6. How, if at all, should mental health benefits be further changed to increase access at minimum, or even reduced, costs?							X					X	

Notes:

1. Some of the supplementary data analyses are recommended for current research and others are recommended for future, follow up research.
2. The simulation analysis is recommended only as future, follow up research.



## CHAPTER 2 POLICY CHANGES

### 2.1 Introduction

Over the course of the last several years, the outpatient mental health benefit under Medicare has undergone a substantial expansion. The most significant changes were made by the Omnibus Budget Reconciliation Act of 1987 (**OBRA-87**), with subsequent legislation (the Technical and Miscellaneous Revenue Act of 1988, **OBRA-89**, and **OBRA-90**) extending the original modifications and serving to construct a benefit more consistent with contemporary notions of mental health.<sup>1</sup> Prior to the changes, the mental health benefit had been weighted quite heavily toward a medical model of mental illness, favoring inpatient services over outpatient intervention. As late as 1987, before the introduction of the aforementioned changes, an estimated **88.3** percent of expenditures for identifiable mental health services were classified under Part A of Medicare, as compared with 62.7 percent of total Medicare expenditures.

The statutory changes in coverage are discussed in the next section. For many of the changes, actual implementation dates differ from statutory implementation dates because of the necessity of developing regulations and issuing manual changes. These differences are discussed in Chapter 3. The changes in mental health benefits are related to earlier changes in benefits for the treatment of Alzheimer's disease. This change and its relationship to the changes in mental health benefits are discussed in Chapter 4. The changes are summarized in the table at the end of this chapter. Manual issuances that implement the changes are reproduced in the Appendix to this **report**.<sup>2</sup>

### 2.2 How the Benefit Changed

#### 1) Payment Limit and Coinsurance

Prior to 1988, outpatient mental health services provided by a physician, with the exception of diagnostic services, were subject to an annual limit (\$500) on allowed charges

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<sup>1</sup>U.S. House of Representatives, Committee on the Budget (1987, 1989, 1990).

<sup>2</sup>David Higbee, Tom Hoyer, and Regina Walker at HCFA were especially helpful in clarifying the details of changes discussed in this chapter.

and a virtual coinsurance rate of **50%**, well above the usual 80% **cost-sharing**.<sup>3</sup> These constraints resulted in an annual reimbursement maximum of \$250; Medicare only reimbursed 50% on up to \$500 of charges. While the coinsurance rate has been retained, Congress has authorized a gradual elimination of the limit according to the following schedule:

<b>Calendar Year</b>	<b>Allowable Charge</b>	<b>Maximum Medicare Payment</b>
<b>1987</b>	<b>\$ 500</b>	<b>\$ 250</b>
<b>1988</b>	<b>\$ 900</b>	<b>\$ 450</b>
<b>1989</b>	<b>\$2200</b>	<b>\$1100</b>
<b>1990</b>	<b>no limit</b>	<b>no limit</b>

From 1988 to 1990, the annual limit was gradually lifted and, finally, eliminated. The special coinsurance rate for outpatient mental health services was retained and now also applies to services of physicians, clinical psychologists (**CPs**), and clinical social workers (**CSWs**).

2) Management of Drug Therapies

Effective January 1, 1989, the law provided that neither the limit nor the special copayment rate was to apply to "brief office visits for the sole purpose of monitoring or changing drug prescriptions used in the treatment' of mental illnesses. The management of drug therapy for mental illness, therefore, was to be reimbursed by Medicare in the same manner as the management of drug therapy for physical illness.

3) Covered Providers

Prior to late 1987, only physicians could bill for therapeutic mental health services under Medicare Part B. The services of clinical psychologists (**CPs**) or clinical social workers (**CSWs**) could be covered only when they were employed by a **physician** and provided

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<sup>3</sup>**Diagnostic** services not subject to the limit and special copayment rate included psychological testing, psychological counseling, and initial psych visits. Follow-up diagnostic services were subject to the coverage limits. In addition, therapeutic services performed in conjunction with diagnostic services during initial psychiatric visits were exempt from the limit and special copayment rate. (Medicare Carriers *Manual*, part 3, section 2476.5)

services “incident to” those of a physician; that is, if they were provided to the patient in connection with the physician’s professional services. The physician’s bill then reflected the “incident to” services. Diagnostic services (e.g. tests) could be provided by a physician or a qualified psychologist, either of whom could bill Medicare directly. These coverage rules were relaxed beginning in 1987. In **addition to CPs and CSWs**, physician assistants (PAs), nurse practitioners (**NPs**), and clinical nurse specialists are covered providers under Part B in certain circumstances. To the extent that **PAs** are authorized by state law to furnish mental health services, they can be reimbursed directly by Medicare. Clinical nurse specialists in rural areas were covered beginning January 1, 1991. Finally, limited coverage of NP services began on April 1, 1990 as follows: “(1) the services must be those which would be covered if they were performed by a physician; (2) nurse practitioners must be working in collaboration with a physician; (3) services are covered only if they are performed in a SNF or nursing facility.” NP coverage was expanded to rural areas on January 1, 1991 .<sup>4</sup>

The mental health benefit expansion has gradually extended Medicare coverage to therapeutic services provided by clinical psychologists, clinical social workers, and nurse practitioners as described below.

#### **Clinical Psychologists:**

- As of December 22, 1987, clinical psychologists in rural health clinics were permitted to render services without physician supervision.
- As of July 1, 1988, **CPs** were permitted to bill Medicare directly for services they provided in a community mental health center (CMHC). Payment was to be based on the lesser of reasonable charges or a fee schedule (see below). **CPs** are required to accept assignment.
- As of January 1, 1989, **CPs** were permitted to bill for services to CMHC patients off-site (other than in their offices), given that the patients were unable to travel to the CMHC for services. For payment changes, see below.
- As of July 1, 1990, clinical psychologists were permitted to bill directly for outpatient mental health services in any setting except hospitals. Services to hospital patients remained bundled until January 1, 1991. **CPs** can now bill Part B directly for their professional services provided in hospitals. For payment changes, see below.

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<sup>4</sup>OBRA 1990, p. 752. Much of the discussion in this paragraph is based on information received in a memorandum from David Higbee and Regina Walker at HCFA.

- Payment: Payment for therapeutic services rendered by **CPs** on or after July 1, 1988 is based on the lesser of reasonable charges or a fee schedule amount to be determined by the Secretary. Since regulations were never published, HCFA recommended to its contractors that the rates be set at 80 percent of prevailing psychiatrist fees. It appears that this policy was universally adopted. Diagnostic services were to be paid at 90% of prevailing charges of independent psychologists for such services.

#### **Clinical Social Workers:**

- Beginning July 1, 1990, **CSWs** were permitted to bill directly for outpatient mental health services. Like **CPs**, **CSWs** are required to accept assignment.
- Direct billing was not allowed for services provided to hospital or SNF inpatients, if the facility was required to provide such services.
- Payment: Payment is made at the lesser of reasonable charges or 75% of the CP fee schedule amount.

#### **Nurse Practitioners:**

- Beginning January 1, 1991, nurse practitioners were permitted to bill directly for services performed in any setting in rural areas, except for services provided in a hospital, which remain bundled.
- Payment: Payment is made at an amount equal to 75% of the prevailing charge (or Medicare fee schedule for physicians) in the area.

#### 4) Partial Hospitalization Services

Prior to 1987, Medicare did not explicitly recognize or cover ‘partial hospitalization’ services, under which psychiatric patients could be treated in a hospital on an outpatient basis as an alternative to an inpatient psychiatric admission. A vague clause in the existing legislation asserted that, to be covered under Medicare, “services must be incident to a physician’s service and reasonable and necessary for the diagnosis and treatment of the patient’s **condition**.”<sup>5</sup>

Many partial hospitalization services, in fact, may have been covered as outpatient services. However, at least one carrier systematically rejected claims for partial hospitalization services on the grounds that they did not constitute “active treatment”. At that time, Medicare

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<sup>5</sup>U.S. House of Representatives, Committee on the Budget (1987).

defined active treatment as treatment that could be expected to either lead to recovery or prevent death, whereas the purpose of partial hospitalization is usually to maintain the patient's health status or to slow regression.

In January of 1987, Medicare redefined active treatment to include maintenance and prevention of regression. An explicit extension of benefits for partial hospitalization services accompanied this change through a manual issuance from HCFA. OBRA-87 enacted the issuance virtually verbatim, with an effective date of December 22, 1987. The specifics of the partial hospitalization benefit under Medicare are as follows:

- Individual and group therapy, drugs and **biologicals** which cannot be **self-administered**, family counseling, patient education, diagnostic services, and occupational therapy were covered by Medicare.
- Meals and transportation services, "geriatric day care", and activities of a primarily recreational or diversionary nature were excluded from coverage.
- Partial hospitalization services not provided directly by a physician were exempted from both the special copayment rate and the now defunct annual payment limit. Payment to the outpatient facility is included in the facility's outpatient reimbursement and is therefore paid at the lesser of facility costs or charges for outpatient services in general.

Initially, partial hospitalization services were covered only when they were provided in a hospital setting. Effective October 1, 1991, these services are also covered if provided in a Community Mental Health Center.

## 2.3 Implementation of Benefits Changes

The policy implementation process is quite complex and, as a result, actual implementation dates do not necessarily reflect Congressionally-mandated effective dates. Where policies require regulations for further clarification, such regulations usually come well after the statutory date. Manual issuances, which transmit requirements or recommendations, often are issued after the statutory date. In the absence of guidance, some carriers and intermediaries act to make coverage changes consistent with statutes, while others hold, delay, or deny outright such claims, pending further instruction. Finally, in the absence of specific guidance, such as was the case for services explicitly called "partial hospitalization", some carriers or intermediaries will attempt to make their own coverage determinations under a standard of reasonableness, while others will deny coverage outright.

With these caveats, the following describes our understanding of the implementation of various policies.

- The partial hospitalization benefit for services provided in a hospital outpatient department, scheduled to be implemented as of January 1, 1988, was effectively implemented as of January 1, 1987. This occurred because the changes that were officially detailed in OBRA-87 had actually appeared, nearly verbatim, in a Carriers Manual issued by HCFA the previous year.

The partial hospitalization benefit for services provided in a community mental health center, scheduled to be implemented as of October 1, 1991, was first included in a manual issuance in March, 1992.

Each step in the expansion of coverage for services provided by clinical psychologists and clinical social workers was implemented, through manual issuance, several months after the official dates detailed in the **OBRA**s. Implementation dates are as follows:

- 1) The authorization of **CPs** to bill Medicare directly for services provided in **CMHCs**, scheduled by OBRA-87 to be implemented on July 1, 1988, was initially detailed in a manual issuance on September 1, 1988.
- 2) The OBRA-90 provisions that permitted **CPs** to bill directly for outpatient mental health services in any setting as of July 1, 1990 did not appear in the Carriers Manual until September 1 of that year.
- 3) The liberalization of social worker coverage which, by law, was effective July 1, 1990, was detailed in the September 1, 1990 manual issuance.

## 2.4 A Note on Alzheimer's Disease

It is instructive for our purposes to examine recent clarifications made in the Medicare coverage of Alzheimer's disease. As the result of a 1984 internal policy decision at HCFA, Alzheimer's status in the medical community as a "neurological disorder" was recognized and instructions were written to indicate its exclusion from the Medicare outpatient mental health coverage restrictions as a "mental disorder". There does, however, exist a clause in the Medicare instructions that distinguishes the exempt treatment of Alzheimer's itself from treatment of the psychological effects of the disease, which are still subject to the coverage limits:

Where the primary diagnosis reported by the physician for a particular service is Alzheimer's **disease...carriers** should look to the nature of the service that has been rendered in determining whether it is subject to the benefit limitation. Typically, treatment provided a patient with a diagnosis of Alzheimer's disease or a related disorder will represent medical management of the patient's



condition (rather than psychotherapy) and **will** not be subject to the benefit limitation. However, where a particular treatment rendered a patient with such a diagnosis is primarily psychotherapy, it **will** be subject to the **limitation**.<sup>6</sup>

A 1987 study by the Office of Technology Assessment predicts that legislation which provides services specifically for individuals with Alzheimer's disease will "create strong incentives for physicians to diagnose their patients who need these services as having that **disease...with** no physiological marker for Alzheimer's disease, there would be no definitive method for disputing the diagnosis, and many individuals who do not have Alzheimer's disease would be mislabelled." As a result, we may observe a marked increase in the frequency of Alzheimer's diagnoses, accompanied by a decline in diagnoses that are difficult to distinguish from Alzheimer's.

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<sup>6</sup>**Medicare** Carriers Manual, section 2476.2;

Office of Technology Assessment (1987).

## Medicare Mental Health Benefit Change Timeline

(Dates are effective implementation dates **except** where noted.)

Providers	1986	[<First Changes in OBRA-87>]		1988	1989	1990	1991	Current Status (1992)
		1987						
Physicians	Therapeutic and diagnostic mental health services covered; therapeutic services subject to special coinsurance and limit.	----->	----->	----->	----->	----->	----->	MDs can provide and bill for mental health services.
Clinical Psychologists	No separate coverage.	Dec. 22: CPs in rural settings permitted to render services without physician supervision	Sept. 1: CPs permitted to bill Medicare directly for services provided in CMHCs	January 1 ● : permitted to provide services to CMHC patients off-site	Sept. 1: permitted to bill directly for outpatient mental health services in any setting	----->	----->	CPs have near complete parity with physicians.
Clinical Social Workers	No separate coverage.	----->	----->	----->	Sept. 1: permitted to bill directly for outpatient services	----->	----->	CSWs can provide and bill for services that "CSW is authorized to perform under state law".
Qualified Psychologists in Independent Practice	Can only provide diagnostic services which, with the exception of follow-up diagnostic procedures are not subject to the special copayment rate and annual limit.	----->	----->	----->	----->	----->	----->	Qualified Psychologists can provide and bill for diagnostic mental health services.
Nurse Practitioners	Services covered only if performed in a SNF or nursing facility by NPs working in collaboration with a physician.	----->	----->	----->	----->	----->	January 1*: Nurse Practitioners can bill directly for services performed in rural areas.	NPs in rural areas can provide and bill for services that (they) are authorized to perform under State law or State regulatory mechanisms*.

### Coverage Limits

Special Coinsurance Rate	52.5%	----->	----->	----->	----->	----->	remains at 62.5%, over and above standard 80% cost-sharing
Annual Limit on Allowable Charges	\$500	\$500	January 1*: \$900	January 1*: \$2200	January 1*: limit phased out	----->	no limit

\* Statutory date.

## Medicare Mental Health Benefit Change Timeline

(continued)

Other Outpatient Providers	1986	<First Changes in OBRA-87> 1987	1988	1989	1990	1991	Current Status (1992)
Hospital Outpatient Department		January 1: partial hospitalization services covered only if provided here					
Rural Health Clinics		Dec. 22: CPs in RHCs allowed to render services w/o physician supervision		Oct. 1: CSWs in RHCs allowed to render services			
Community Mental Health Centers			Sept. 1: CPs permitted to bill Medicare directly for services provided in CMHCs				March 1: services provided in CMHC are covered
Other Facilities (CORF, Home Health)				January 1*: CPs permitted to provide services to CMHC patients off-site	Sept. 1: CPs permitted to bill directly for outpatient services in any setting, except CORF		

### Types of Service (Coverage/Reimbursement Rules)

Partial Hospitalization	Partial hospitalization services not explicitly recognized or covered by Medicare.	January 1: A constellation of partial hospitalization services covered by Medicare if provided in a hospital outpatient department.	----->	----->	----->	----->	March 1: partial hospitalization services provided in CMHC are covered.
Management of Drug Therapies	Subject to the special copayment rate and annual limit.	----->	----->	January 1: Neither the limit nor the special copayment rate was to apply to "brief office visits for the sole purpose of monitoring or changing drug prescriptions used in the treatment" of mental illness.	----->		The management of drug therapy for mental illness is reimbursed in the same manner as the management of drug therapy for physical illness.
Clinical Psychologist Fee Schedule			July 1: Payment based on the lesser of reasonable charges or a fee schedule amount to be determined by the Secretary.				Rates for CPs set at 80% of prevailing psychiatrist fees

\* Statutory date.



## **CHAPTER 3 REVIEW OF THE POLICY LITERATURE**

### **3.1 Introduction**

The evaluation will address the utilization and expenditure questions that were presented in the introduction by assessing the impacts of the expanded benefits on utilization, charges, and Medicare expenditures. The analysis will include an assessment of how important variables such as beneficiary characteristics, geographic location, and, to the extent possible, the extent and nature of supplemental health insurance coverage differentially affect the impacts of the changes.

The purpose of this chapter is to provide a context for the evaluation through a discussion of relevant background information and policy issues. The chapter describes program issues, reviews relevant literature, and highlights some of the anticipated impacts that will need to be considered as the evaluation is conducted.

The next two sections discuss two major factors that are likely to result in differential impacts from the benefit changes: beneficiary status and supplemental health insurance coverage. Section 3.2 reviews information about Medicare eligibility, particularly for those who become eligible because of mental disability. Section 3.3 explores the extent and nature of relationships between Medicare and other payors since this can significantly impact the use of Medicare mental health services.

Section 3.4 summarizes information on utilization of outpatient mental health services among particular Medicare populations: the elderly, the mentally disabled, and beneficiaries living in rural areas. Section 3.5 then briefly highlights the potential utilization impacts resulting from the outpatient benefit changes.

Section 3.6 reviews Medicare expenditures on mental health, including their relationship to total mental health outlays and to mental health expenditures of other payors. The final section of the chapter, Section 3.7, discusses the potential impacts of the outpatient benefit expansions on overall Medicare outlays.

## 3.2 Medicare Eligibility

Identification of differences in beneficiary status will be crucial to analyzing the utilization and expenditure impacts of the changes. As will be seen in Chapter 4, we suggest a division among elderly, mentally disabled, and other disabled. Roughly 10 percent of Medicare beneficiaries are disabled and 90 percent are elderly (Greenbook, 1991). This section describes these populations with particular attention to the characteristics of those who are disabled because of a mental disorder.

### A. The Elderly

Persons age 65 or older are eligible to participate in the Medicare Part A hospital insurance program if they are entitled because of their work history or if they pay the monthly Part A premium. Additionally, all persons age 65 or older may elect to enroll in Part B Supplemental Medical Insurance by paying the monthly premium. In 1989, **29,366,000** elderly participated in Part A and **28,976,000** were enrolled in Part B (Greenbook, 1991). Six million elderly Part A participants received reimbursed services, and 24 million elderly Part B enrollees received reimbursed services (Greenbook, 1991).

### B. The Disabled

Medicare eligibility for the disabled is related to the Social Security Disability Insurance (SSDI) program. The following sections describe the process of **SSDI** determination and subsequent Medicare eligibility and review trends in eligibility with particular attention to those who enter the **SSDI** program because of a mental illness and who become eligible for Medicare.

#### 1. Standards for **SSDI** Eligibility

**SSDI** benefits are primarily available to workers under age 65 who become disabled and who are "insured" for **SSDI** based on their prior contributions to the Social Security disability fund. The **SSDI** eligibility standards define disability as:

"an inability to engage in any substantial gainful activity by reason of a physical or mental impairment. The impairment must be medically determinable and expected to last for not less than 12 months or to result in death" (Greenbook, 1991).

Underlying the definition is the assumption that eligible individuals are unable to participate in “substantial gainful work” which is defined as activity that leads to earnings in excess of a specified level (\$500 per month in 1990). At age 65, **SSDI** eligible begin to receive standard Old Age and Survivor’s Insurance (OASI) retirement benefits in place of **SSDI** benefits and are no longer identified as disabled. Actual benefit payments to persons qualified for **SSDI** do not begin until the sixth month of eligibility.

Spouses and children of disabled workers are eligible for limited benefits under certain circumstances. Particular provisions have extended the duration of benefits to a subset of spouses and children who are themselves disabled; this group includes disabled widows and widowers and adults who became disabled as children. Most disabled adult children suffer from developmental disabilities (Greenbook, 1991).

## 2. Determination of **SSDI** Eligibility

Responsibility for disability eligibility determinations is shared by the federal government and the states. Local Social Security offices assess non-medical eligibility factors including **SSDI** insured status and whether or not applicants are participating in substantial gainful work. Cases are then remanded to State Disability Determination Service (DDS) employees who conduct medical eligibility reviews and evaluate vocational rehabilitation options for the Social Security Administration (SSA). As part of a four-step process, DDS evaluates medical evidence to determine (1) whether an applicant has a severe impairment; (2) whether the impairment is severe enough to meet federal standards; (3) whether the applicant is functionally able to perform his or her former job; and (4) whether the applicant is able to do other types of work available in the national economy (Systemetrics/McGraw-Hill, 1990).

States also conduct continuing disability reviews to determine whether or not beneficiaries have improved such that they are no longer eligible for benefits. Reviews are held approximately every seven years for individuals with permanent disabilities, every three years for eligible with non-permanent yet more severe disabilities, and every 18 months for persons who are likely to show improvement. Though mentally disabled individuals are not specifically sought out for review, they frequently fall into the 18-month review category because it is difficult to assess their disability level and potential for recovery (William Stavis, California DDS).

Federal **efforts to** insure consistency across states include publishing detailed eligibility criteria that are used in all states, and federal reviews of 50 percent of state **SSDI** awards and 7.5 percent of denials. Recent data indicate that such reviews confirm 98.5 percent of awards and approximately 96 percent of denials (SSA, 1992). Analysts at the SSA indicate that eligibility allowance rates by diagnosis are fairly similar across states (Alan Schafer, Social Security Disability Office). Despite federal efforts to produce detailed standards and conduct quality assurance reviews, variations in eligibility across states may exist because of differences in clinical case evaluations by physicians and psychiatrists.

### 3. Mentally Ill **SSDI** Beneficiaries Differ from Other **SSDI** Beneficiaries

Mentally ill **SSDI** beneficiaries differ from the overall **SSDI** beneficiaries in several respects. First, the mentally ill are younger; in 1987, 17.9 percent of all **SSDI** beneficiaries were under age 40 whereas 37.6 percent of those with mental disorders were under age 40 (Greenbook, 1991). In addition, the mentally ill are slightly more likely to recover or age out of **SSDI** status than the average **SSDI** beneficiary, although their mean time in the **SSDI** program is higher than for any other diagnostic group. Exhibit 3.2.1 presents the results of Hennessey and Dykacz's (1989) longitudinal study of a 1972 **SSDI** cohort; the study predicted mean time in the **SSDI** program.

**EXHIBIT 3.2.1**  
**REASONS FOR TERMINATION OF SSDI ELIGIBILITY**  
**AND MEAN YEARS IN THE PROGRAM**

Diagnostic Group	Sample Size	Percent of SSDI Program Terminations by Reason			Average Years in SSDI Program by Type of Termination			
		Recovery	Death	Retirement	All Types	Recovery	Death	Retirement
Total	18,816	11%	36%	53%	9.3	5.3	6.2	12.2
Mental Disorders*	1,752	14%	24%	61%	15.6	7.3	10.4	19.6
Circulatory	5,389	5%	41%	54%	7.5	4.4	5.6	9.2
Musculo-skeletal	2,917	14%	17%	69%	10.0	5.2	8.0	11.5
Neoplasms	1,525	3%	84%	13%	3.4	3.1	2.4	10.4
Accidents	1,276	43%	14%	43%	9.9	4.8	9.0	15.2

\*Includes mentally retarded.

Source: Hennessey and Dykacz, 1989.



Persons with mental diagnoses spend approximately six more years on **SSDI** than the average beneficiary. These figures for mental diagnoses are probably biased upward by the inclusion of the mentally retarded; however, the mentally retarded make up less than five percent of the **SSDI** beneficiaries with mental disorders (Greenbook, 1991).

#### 4. Growth in the Mentally Ill **SSDI** Population

Exhibit 3.2.2 shows the growth in the percent of **SSDI** beneficiaries who are eligible due to a mental disorder, for the past two decades. After relative stability between 1970 and 1982, the percentage more than doubled between 1982 and 1987. Since 1987, the percentage has again been fairly stable.

#### EXHIBIT 3.2.2

#### GROWTH IN THE **SSDI** POPULATION AND IN THE PERCENTAGE OF NEWLY ELIGIBLE **SSDI** BENEFICIARIES THAT ARE MENTALLY DISABLED, 1970-1990\* (NUMBERS IN MILLIONS)

<b>SSDI Beneficiaries</b>	<b>1970</b>	<b>1979**</b>	<b>1982</b>	<b>1985</b>	<b>1987</b>	<b>1989</b>	<b>1990</b>
Number of <b>SSDI</b> Beneficiaries	1.5	2.9	2.6	2.7	2.8	2.9	3.0
Percentage of New Beneficiaries Eligible Due to Mental Disorder	11%	11%	11%	18%	23%	22%	23%

\* "New" refers to beneficiaries that began receiving benefits during the calendar year.

\*\* Percentages are for 1979 but number of beneficiaries are for 1980.

Source: Greenbook 1991, pp. 63 and 65.

There are several explanations for the growth in **SSDI** eligibility due to mental illness, many of which relate to the 1984 Social Security Disability Benefits Reform Act. First, the Act changed the criteria used to determine both initial and continuing mental disability. As a result of the legislation, the **SSA's** "Listing of Impairments" (a list that gives detailed descriptions of conditions that meet medical disability standards) was revised to "reflect current professional knowledge on the diagnosis, treatment, and evaluation of mental impairments" (*Systemetrics/McGraw-Hill*, 1990). The changes reflect an increased emphasis on ability to function on a daily basis and in social situations in addition to manifestation of clinical symptoms. New

criteria include such factors as ability to concentrate and ability to get along with others.

The 1984 legislation also placed a moratorium on continuing disability reviews for beneficiaries who are eligible because of mental illness; this lasted until the next year, when the revised criteria were published. In addition, the law stated that **SSDI** benefits could not be terminated unless the state DDS could document “substantial evidence” of medical improvement that made it possible for the individual to participate in substantial gainful work. Staff at the Social Security Disability Office indicate that this particular change has made it much more difficult to **terminate SSDI** eligibility. In addition, the Reform Act allowed and continues to allow individuals who lose eligibility following a review to continue to receive benefits until all avenues of appeal have been exhausted (Systemetrics/McGraw-Hill, 1990). Finally, the legislation allows cases denied in previous years to be readjudicated using the new standards. Readjudication led to an increase in the percentage of mentally ill **SSDI** eligible between 1985 and 1987 (Schafer, Social Security Disability Office).

**Staff** at the SSA offer increased awareness and expanded outreach programs as an additional explanation for growth in the proportion of mentally ill disabled. Labor unions are informing their members about mental health benefits, and mental health programs are referring patients to Social Security and actively assisting them in qualifying for benefits. State outreach programs to increase provider awareness may also have contributed.

## 5. Links Between the Mentally Ill in the **SSDI** and **SSI** Programs

Roughly 16 percent of all **SSDI** disabled workers are also eligible for Supplemental Security Income (SSI) payments because their **SSDI** income does not exceed SSI standards (Social Security Bulletin, 1991 Annual Statistical Supplement).<sup>1</sup> We do not know whether the same percentage applies to those who are eligible for **SSDI** due to mental illness, nor do we know the percentage of **SSDI** Medicare eligible who are also **SSI** eligible and, therefore, categorically entitled to Medicaid.

The standards used to determine disability are nearly identical in the **SSDI** and **SSI** programs. The most notable exception is for substance abusers, who must meet additional restrictions in order to attain **SSI** eligibility. The percentage of individuals ages 18 to 64 who

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<sup>1</sup> Eligibility for **SSI** is discussed further in section 3.3.A.

are eligible for SSI on the basis of mental illness is slightly higher (31 percent) than the percentage in the **SSDI** population (23 percent) (Greenbook, 1991).<sup>2</sup>

## 6. Medicare and the Mentally Disabled

For the disabled, the **SSDI** program is closely linked to Medicare eligibility. Disabled workers, disabled surviving spouses, and disabled adult children become eligible for Medicare after two years of receipt of **SSDI** (or 29 months after determination of disability); non-disabled spouses and children do not. **SSDI** beneficiaries eligible for benefits on the basis of End-Stage Renal Disease and those who become re-entitled to **SSDI** within five years of losing eligibility are not subject to the two-year wait. In 1990, 4.3 million individuals were eligible for **SSDI** and 3.3 million of those people were under age 65 and covered by Part A of Medicare (Greenbook, 1991), suggesting that about three-fourths of **SSDI** recipients are Medicare eligible.

HCFA does not maintain comprehensive data on the primary diagnosis of beneficiaries who are also **SSDI** beneficiaries (Rubin et al., 1992; Lave and Goldman, 1990). However, data from studies by Bye et al. (1987), and Hennessey and Dykacz (1989) indicate that **SSDI** beneficiaries with mental disorders leave the **SSDI** program at a slower rate than persons in other diagnostic categories, suggesting that they may be more likely than other groups to remain on **SSDI** for the two year period necessary to attain Medicare eligibility. Bye et al. (1987) found that over 93 percent of new **SSDI** beneficiaries with a mental disorder in 1972 qualified for Medicare after two years -- a larger percentage than for any other diagnostic group; over all diagnostic groups, only 82 percent of new beneficiaries eventually received Medicare benefits. In analysis of the same data, Bye et al. (1991) found that per capita Medicare expenditures on **SSDI** beneficiaries through age 64 were very high for those with mental disorders; only a small diagnostic group (those with congenital anomalies) had higher expenditures per capita. High expenditures were due to an extraordinary long period of eligibility, 15 years. Because **SSDI** turnover rates are lower for the mentally ill, and because 23 percent of all newly eligible **SSDI** beneficiaries in 1990 were mentally ill, we expect that at least 23 percent of **SSDI** beneficiaries who are enrolled in Part A are mentally ill.

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<sup>2</sup> **SSDI** individuals are transferred to Social Security benefit eligibility based on age rather than disability after turning 65. This factor makes it difficult to track mentally disabled **SSDI** recipients into old age. This is not the case for SSI recipients who maintain eligibility on the basis of their disability.

Another factor reinforces the view that the proportion of Medicare beneficiaries with mental illness is higher than the corresponding proportion of **SSDI** eligible. Conversion of the disabled to “normal” retirement status after age 65 results in an understatement of the number of disabled Medicare beneficiaries because these individuals are no longer **labelled** as disabled. According to Hennessey and Dykacz (1989), the percentage of mentally ill persons who leave the **SSDI** program because they turn 65 is higher than the percentage of all **SSDI** beneficiaries who leave the program for this reason (despite higher recovery rates for the mentally disabled). For the Hennessey and Dykacz cohort, this suggests that disabled Medicare beneficiaries over age 65 may be more likely to have a mental diagnosis than their under 65 counterparts.

### 3.3 Medicare Relationships with Other Payors

Incentives to use the expanded Medicare outpatient services may be affected by the nature of supplemental health insurance coverage. Such coverage may reduce barriers to utilization created by deductibles and copayments and/or transfer service usage from one **payor** to another where both insurers cover a particular service. The evaluation should therefore attempt to consider other insurance coverage as an important variable that can affect utilization and expenditures.

As Exhibit 3.3.1 shows, a substantial proportion of Medicare beneficiaries have multiple coverage.

#### EXHIBIT 3.3.1

##### INSURANCE COVERAGE OF MEDICARE BENEFICIARIES

Beneficiary Status	Medicare Only	Medicare/Medicaid	Medicare/Private
Aged	20.2%	6.7%	73.1%
Disabled	37.7%	21.1%	41.2%

Source: **Rubin** and Wilcox-Gok, 1991.

The elderly are more likely than the disabled to have Medicare plus some type of private coverage, while the disabled are more likely to have Medicare plus Medicaid, or Medicare only. The nature of coverage varies by beneficiary characteristic, with younger, lower income,

and less educated **SSDI** beneficiaries less likely to have additional private coverage but more likely to have Medicaid coverage (**Rubin and Wilcox-Gok, 1991**).

Medicare's relationships with other payors are explored in the next two subsections, especially as they relate to Part B. We first look at the incentives of persons who are Medicare and Medicaid eligible and then address Medicare beneficiaries who have private insurance coverage.

**A. Medicare and Medicaid: Qualified Medicare Beneficiaries and Persons Dually Eligible for Medicare and Medicaid Benefits**

State-specific factors complicate Medicare/Medicaid relationships, but in general there are two groups who are eligible for both Medicare and Medicaid benefits: Qualified Medicare Beneficiaries ("**QMBs**") and "Dual Eligible".

Qualified Medicare Beneficiaries are aged and disabled individuals whose incomes are below 100 percent of the federal poverty line and whose resources do not exceed twice the allowable amount under SSI (the allowable amount for an individual was \$2,000 in 1991). This group was first defined in 1989, and as of January 1992, Medicaid programs in all states must pay Medicare Part B premiums, copayments, and deductibles for these individuals. After January 1, 1993 and 1995, respectively, states will also have to cover Part B premiums for **QMBs** with incomes up to 110 percent and 120 percent of poverty. In 1989, there were approximately 3.3 million **QMBs** (10.1 percent of total Part A enrollees); 76 percent were elderly and 24 percent were disabled (Greenbook, 1991).

The majority of "dual eligible" are Medicare enrollees who are eligible for Medicaid because they are eligible for **SSI**.<sup>3</sup> In most states, SSI financial eligibility criteria are identical to Medicaid financial eligibility criteria, and SSI eligible become eligible for Medicaid either automatically or by completing an additional Medicaid application. As of 1991, 13 states continued to use more restrictive criteria to determine Medicaid eligibility than to determine SSI eligibility (Greenbook, 1991). In these states, Medicaid applicants have to meet additional disability or financial criteria before being eligible for Medicaid. In addition, all states have the

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<sup>3</sup> SSI eligible meet specified income (\$5,304 in 1991) and asset (\$2,000 in 1991) requirements. Consequently, the "dual eligible" can be viewed as a subset of the **QMBs**, principally defined by their extreme poverty and their entitlement to both Medicaid and Medicare benefits.

option of offering full Medicaid coverage to individuals whose incomes are below the federal poverty line and to persons who qualify for state supplemental security payments (SSP), but not SSI, because state criteria are more lenient than federal criteria. Other dual eligible include the medically needy and individuals who “spend down” (that is, spend a specified portion of their income on medical expenses) to medically needy levels. In 1990, 36 states offered Medicaid coverage to medically needy persons (**Systemetrics/McGraw-Hill**, 1990). All dual eligible are entitled to full Medicaid benefits in addition to Medicare benefits, but Medicare is considered the primary **payor** of benefits.

Because **SSI** recipients who are Medicare eligible constitute the largest group of dual eligible, a breakdown of **SSI** recipients by age and disability gives some insights into the dually eligible population. In 1990, 68 percent of **SSI** recipients were disabled, 30 percent were elderly, and 20 percent were both disabled and elderly (Greenbook, 1991). In recent years, the proportion of elderly among **SSI** recipients has declined but the proportion of disabled (both elderly and younger) has increased (Greenbook, 1991).

Coverage as a QMB or dual eligible may result in altered utilization and expenditure patterns. For **QMBs**, expanded Medicare coverage of mental health services (due to the reduction or elimination of out-of-pocket costs that occurs when Medicaid covers premiums, copayments and deductibles) could result in increased Medicare service use. This in turn could lead to increased Medicare (and Medicaid) expenditures. For dual eligible, expanded Medicare coverage could result in a transfer of services from Medicaid to Medicare if the service had previously been paid for by Medicaid.

Approximately 6.6 percent of elderly Medicare beneficiaries (Greenbook, 1991) and 12.4 percent of disabled Medicare beneficiaries are dually eligible for Medicare and Medicaid (**Mathematica**, 1990). Many of these dual eligible also have QMB status, but Social Security analysts are unable to determine the exact percentage.

## **B. Medicare and Supplemental Private Coverage**

Persons who are covered by both Medicare and private insurance policies face incentives that are similar to those faced by **QMBs** and dual eligibles. In general there are two types of private policies that supplement Medicare: “Medi-Gap” policies, that are specifically designed to supplement Medicare coverage, and other private policies not specifically related to Medicare.

Approximately 70 percent of elderly Medicare beneficiaries have a Medi-Gap policy that supplements their Medicare coverage (Monheit and **Schur**, 1987 in Thomas and Rice, 1991). This figure suggests that almost all of the additional private coverage (see Exhibit 3.3.1) held by elderly Medicare beneficiaries is in the form of Medi-Gap coverage.

Medi-Gap policies are specifically designed to fill in gaps in Medicare coverage. In particular, these policies cover several of Medicare's cost-sharing provisions. Since about 1980, federal law has mandated that Medi-Gap policies cover Part A and Part B copayments. All Medi-Gap policies thus cover the 20 percent Part B copayment rate that applies to most Medicare outpatient services, as well as the 50 percent Part B copayment rate for mental health services. In addition, a study of Medi-Gap benefits conducted by Thomas and Rice (1991) indicates that 78 percent of policyholders in their sample population had coverage for the Medicare Part A deductible, but only six percent had coverage for the Part B deductible. Likewise, the American Association of Retired Persons (AARP) indicates that the **AARP's** most popular Medi-Gap benefits are coverage of Part A copayments and deductibles and Part B copayments (AARP Health Insurance Division, 1992). Medi-Gap coverage of copayments and deductibles could result in outcomes similar to those hypothesized for **QMBs**, namely greater increases in the use of the expanded mental health benefits by those individuals who do not have to make cost-sharing payments out of their own resources.

Medi-Gap benefits generally apply only to those services allowed by Medicare. For example, although 81 percent of Medi-Gap policyholders have coverage for day 21 to day 100 of skilled nursing facility (SNF) care, Medicare restrictions on SNF services make it difficult for Medi-Gap enrollees to benefit from this coverage (Thomas and Rice, 1991).

However, Medi-Gap does cover a few charges that are not allowed by Medicare. For example, physicians do not have to accept Medicare payments as payment in full so patients may be liable for a percentage of charges that exceed what Medicare will pay. In the Thomas and Rice study, only 3 percent of Medi-Gap policyholders had coverage that would pay some or all of the "extra billing" for unassigned claims. 'Approximately 39 percent of Medi-Gap insurers offer prescription drug coverage, but only 13 percent of Medi-Gap policyholders actually have this coverage (Thomas and Rice, 1991). More important for this study, under federal law, Medi-Gap insurers cannot discriminate against particular groups of elderly Medicare beneficiaries in their underwriting practices (Tom **McCormack**, **NAPA**); however, these insurers can and do discriminate against the disabled. Only a few insurers offer coverage to Medicare recipients under age 65, and those that do often require large premiums and deductibles and exclude coverage of pre-existing conditions (**McCormack**, **NAPA**).

Coverage exclusions often include the primary disabling condition of disabled Medicare beneficiaries, thus minimizing the value of Medi-Gap policies for these individuals (McCormack, NAPA). Medi-Gap may therefore have a more significant confounding effect on the elderly than on the disabled.

As can be seen from the above review, Medi-Gap coverage policies currently vary widely in terms of both optional benefits offered and the amount of coverage provided. Recent legislation which mandated that Medi-Gap policies be standardized into 10 prototypes by July 30, 1992, (Thomas and Rice, 1991) will reduce this variability and make the potential impacts of such coverage easier to analyze.

A relatively small number of Medicare beneficiaries is covered by private health insurance policies that are not Medi-Gap policies. These individuals may either be over 65 and still employed so that they continue to be eligible for health benefits through their employer, or they may have continued health coverage as **part** of a retirement package offered by their employer. Medi-Gap requirements do not apply to these policies. Medicare is a secondary **payor** for services provided to some percentage of this privately insured population. Medicare is also a secondary **payor** in certain other cases. Medicare pays second when beneficiaries are covered by workers' compensation, automobile, and liability insurance (Greenbook, 1991). For ESRD beneficiaries, Medicare coverage is secondary to employer-based health plans during the first 18 months of Medicare eligibility (Greenbook, 1991).

If the primary coverage of individuals who have Medicare as a secondary **payor** is more extensive than Medicare's expanded outpatient mental health benefit, then the impact of the changes on Medicare expenditures may be less for this group.

### 3.4 Utilization of Ambulatory Mental Health Services Among Medicare Populations

One of the major objectives of the outpatient mental health benefit expansion was to increase utilization of such services. This section explores the background information that led policy makers to believe that access barriers, including Medicare benefit limitations, were impeding the use of an appropriate level of outpatient mental health services by Medicare beneficiaries. As we discuss below, sizable numbers of persons in the United States have diagnosable disorders but do not receive any treatment for their conditions. We also discuss the relative role of mental health specialists versus general medical providers in the treatment of mental health problems. As we note below, the general medical community provides a



substantial proportion of mental health services received by both the general population and Medicare beneficiaries.

The first part of the section describes prevalence and treatment rates for the general population as a context for the subsequent discussion of three subgroups of the Medicare population: the elderly, the mentally disabled, and persons living in rural areas.

#### **A. . Prevalence of Mental Disorders in the General Population**

The Epidemiologic Catchment Area (ECA) study conducted in five communities in the early 1980s provides the most thorough and comprehensive estimates of prevalence rates of mental disorders in the United States. Approximately 18,000 individuals were interviewed using the Diagnostic Interview Schedule (DIS) which can be translated into DSM-III (Diagnostic and Statistical Manual-III) mental health diagnoses. Respondents included both household residents and individuals living in institutions (mental hospitals, nursing homes, and jails). Though the initial study populations were not representative of the U.S. population as a whole, the results from the five sites were adjusted to reflect the age, sex, and gender structure of the total population as it existed in 1980.

Exhibit 3.4.1 shows the lifetime and one-year prevalence figures for the specific disorders included in the ECA study.

Exhibit 3.4.2 shows the age of onset for the varying disorders (excluding cognitive impairment). For all disorders, the median age at which symptoms were remembered as first appearing is 25 or younger, and the age by which 90 percent of symptoms have first appeared is 50 or younger (Robins and Regier, 1991).

The ECA included questions about the receipt of mental health treatment within the last year (for inpatient services) and the last six months (for outpatient services). Using a broad definition of "treatment,"<sup>4</sup> 2.4 percent of those with an active mental disorder within the last year had been hospitalized and 16.4 percent had received some outpatient mental health services.

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<sup>4</sup> A person was counted as having a mental health outpatient visit if s/he consulted either a mental health specialist, a general medical provider, -or a human service sector provider specifically about a mental health problem or if there was discussion of the mental health problem as a secondary activity during a regular general medical visit.

### EXHIBIT 3.4.1

#### PREVALENCE RATES OF SPECIFIC DISORDERS

Disorder	Lifetime	Active (One-Year)
Phobia	14.3%	0.0%
Alcohol Abuse/Dependence	13.0%	6.3%
Generalized Anxiety	0.5%	3.0%
Major Depressive Episode	6.4%	3.7%
Drug Abuse/Dependence	6.2%	2.5%
Cognitive Impairment: Mild or Severe	not available	5.0%
Dysthymia	3.3%	not available
Antisocial Personality	2.6%	1.2%
Obsessive Compulsive	2.6%	1.7%
Panic	1.6%	.9%
Schizophrenia or Schizophreniform	1.5%	1.0%
Manic Episode	0%	.6%
Cognitive Impairment: Severe	not available	.9%
Somatization	.1%	.1%

Source: Robins and Regier, 1991.

### EXHIBIT 3.4.2

#### AGE AT ONSET OF VARIOUS DISORDERS AND AGE BY WHICH 90 PERCENT OF THOSE AFFECTED EXPERIENCED FIRST SYMPTOM

Disorder	Median Age of Onset	Age by Which 90% had the First Symptom
Antisocial Personality	a	12
Phobia	10	48
Somatization	15	2 3
Drug Abuse/Dependence	18	27
Schizophrenia	19	35
Manic Episode	19	37
Obsessive Compulsive	20	50
Alcohol Abuse/Dependence	21	38
Panic	23	42
Depressive Episode	25	52

Source: Robins and Regier, 1991.

The proportion of persons with a diagnosable condition who received some treatment varies by disorder. Those with more severe diagnoses are more likely to have received some treatment and to have received that treatment from specialist mental health providers (Robins and Regier, 1991). Forty percent of schizophrenics (Robins and Regier, 1991) had mental health visits to a specialty provider, compared to nine percent of the general population ages 16 to 64 (German et al., 1967).

The ECA studies clearly indicate that many individuals with active diagnosable mental disorders do not receive treatment for these problems. One objective of the expansion of Medicare outpatient coverage is to improve access to mental health services for beneficiaries who could benefit from therapeutic intervention. The following sections explore the issues of prevalence and treatment for three groups of Medicare recipients: the elderly, the mentally disabled, and residents of rural communities.

## **B. Prevalence and Treatment for Elderly Medicare Recipients**

In 1978, the President's Commission on Mental Health, based on studies available at that time, reported that rates of mental illness among the elderly were at least as high as in the general population. However, the subsequent Epidemiological Catchment Area (ECA) studies found that rates for the elderly are lower than for the general population for all diagnostic categories except cognitive **impairment**.<sup>5</sup> Because the ECA relies on self reports, it may underestimate the prevalence of mental disorders among the elderly since this group may be less willing to acknowledge mental and emotional problems than are younger people. Exhibit 3.4.3 portrays the one-month prevalence figures for selected mental disorders for the elderly in comparison to all ages combined.

Cognitive impairment is of particular interest because it affects the elderly more than other populations (Regier et al., 1988). The prevalence of severe cognitive impairment, about 50 percent of which is Alzheimer's disease (Fogel et al., **1990**), increases significantly with age; in the ECA study the rates for severe cognitive impairment were 2.9 percent for the **65-74** year old age group, 6.8 percent for the 75-84 year old age group, and 15.8 percent for the **85+** group. A review of studies by Bliwise and McCall (1985) suggests rates of mild to moderate cognitive impairment are at least twice those of severe cognitive impairment.

Evidence on utilization suggests that a disproportionately low percentage of the elderly are consumers of mental health services, even considering their potentially lower prevalence rates. **McGuire** (1989) estimates that the elderly receive only about one-half as many mental health services as those in younger age groups. Two examples of data that support this conclusion are: (1) a review of the 1980 National Medical Care Expenditure Study which indicated lower proportions of elderly than younger patients in psychiatrist and psychologist office practices (**Taube**, Kessler, and Kessler, 1984); and (2) a General Accounting Office report (1982) which indicated that the elderly, who constituted 11 percent of the population in 1978, received only 4.3 percent of services provided in community mental health centers

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<sup>5</sup> Cognitive impairment is a term used to describe dementing illnesses that result from brain dysfunction (Robins and Regier, 1991). Cognitive impairment includes organic mental disorders (for which etiology can be presumed) and organic brain syndromes (where etiology is unclear). Actual diagnosis of both disorders and syndromes is difficult, so the ECA study used current cognitive status as a proxy for cognitive impairment.

(CMHCs). Though the elderly may receive services in settings other than CMHCs, Scheidt (1985) notes that the need for community treatment in non-institutional settings is not being met.

#### EXHIBIT 3.4.3

##### SELECTED ONE-MONTH PREVALENCE DATA BY AGE

<b>Mental Disorder</b>	<b>65+</b>	<b>All Ages</b>
<b>Any DIS Disorder</b>	<b>12.3%</b>	<b>15.4%</b>
<b>Any DIS Disorder except cognitive impairment, substance use, and antisocial personality</b>	<b>7.4%</b>	<b>11.2%</b>
<b>Substance Use Disorder</b>	<b>0.9%</b>	<b>3.8%</b>
<b>Alcohol Abuse/Dependence</b>	<b>0.9%</b>	<b>2.8%</b>
Drug Abuse/Dependence	0.0%	1.3%
<b>Schizophrenic/Schizophreniform Disorders</b>	<b>0.1%</b>	<b>0.7%</b>
Schizophrenia	0.1%	0.6%
Schizophreniform Disorders	0.0%	0.1%
<b>Affective Disorders</b>	<b>2.5%</b>	<b>5.1%</b>
Manic Episode	0.0%	0.4%
Major Depressive Episode	0.7%	2.2%
Dysthymia	1.8%	3.3%
<b>Anxiety Disorders</b>	<b>5.5%</b>	<b>7.3%</b>
Phobia	4.8%	6.2%
Panic	0.1%	0.5%
Obsessive-Compulsive	0.8%	1.3%
Somatization	0.1%	0.1%
Antisocial Personality	0.0%	0.5%
Severe Cognitive Impairment	4.9%	1.3%

Source: Regier, et al., 1988.

More comprehensive data on utilization of outpatient mental health services by the elderly is available from an analysis of the ECA study data from the Baltimore site where the elderly were **oversampled**.<sup>6</sup> Exhibit 3.4.4 shows the percentages of individuals by age group who had visits to various kinds of providers within the last six months for an emotional or mental problem.

#### EXHIBIT 3.4.4

##### PERCENTAGE OF PERSONS WITH VISITS FOR MENTAL OR EMOTIONAL PROBLEMS IN LAST SIX MONTHS

	Age		
	18-84	85-74	75 and over
Number of persons	2,556	569	334
Percent with mental health visits to:			
Mental health specialist	4.1%	0.3%	0.0%
General medical provider only	4.0%	3.5%	1.2%
Human service sector only	0.6%	0.3%	0.2%
Percentage with general medical visits having a <b>secondary mental</b> health content	6.6%	8.3%	3.9%

Source: German, et al., 1987.

**The above data indicate** several important characteristics of outpatient **mental** health service usage by the elderly:

- The proportion of persons with mental health visits is significantly lower among the elderly, particularly the 75 and over age group;
- The proportion of persons with any visit to a mental health specialist is extremely small for the 65-74 year old group and nonexistent for the 75 and older age group;
- The elderly frequently address their mental or emotional problems as part of a general medical visit rather than as part of a specific mental health visit.

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<sup>6</sup>**Very** similar findings are reported in Horgan's (1964) analysis of the 1977 National Medical Care Expenditure Survey (NMCES).

The above disparities are magnified when one considers only those persons with a recently diagnosed **DIS/DSM-III** disorder, as shown in Exhibit 3.4.5.

#### EXHIBIT 3.4.5

##### PERCENTAGE OF PERSONS WITH VISITS FOR MENTAL OR EMOTIONAL PROBLEMS IN LAST SIX MONTHS AMONG THOSE WITH ANY RECENT **DIS/DSM III** DISORDER

	Age		
	18-64	65-74	75 and over
Number of persons	672	101	59
Percentage with mental health visits to: Mental health specialist General medical provider <b>only</b>	9.1% <b>8.0%</b>	1.0% <b>5.0%</b>	0.0% <b>1.8%</b>
Percentage with general medical visits with mental health content	17.2%	17.7%	10.3%

Source: German, et al., 1987.

No single reason accounts for the low utilization of mental health services by the elderly. The former dollar limit on Medicare coverage of outpatient mental health services, the high copayment rate, and restricted provider coverage are frequently cited as barriers to care. Other common explanations focus on the elderly's emphasis on self-reliance, on their special sensitivity to the stigma associated with mental illness, on general denial by the elderly and their families of signs of reduced capacities, and on an assumption that some manifestations of mental problems are a natural part of the aging process.

The structure of the health care system also poses barriers to access for the elderly with mental health problems. Most importantly, inadequate education in geriatrics has led to substantial misdiagnosis, lack of understanding of the efficacy of psychiatric interventions for the elderly, and failure to make appropriate referrals for mental health consultations. There are very limited numbers of mental health specialists trained and willing to work with the elderly, and there is a bias against working with this population (Ford and Sbordone, 1980; McGuire, 1989; Robinson, 1990).

### C. Prevalence and Treatment for Mentally Disabled Medicare Recipients

The above section documented the existence of a larger gap between prevalence and outpatient treatment for the elderly than for the general population. This section presents information that suggests that while the proportion of **SSDI** mentally disabled beneficiaries who are receiving some outpatient treatment is likely to be higher than the proportion of elderly receiving comparable treatment, it is still lower than might be expected or desired given the need that such a disability **represents**.<sup>7</sup>

There are no prevalence and treatment data for **SSDI** beneficiaries comparable to what is available for the general population and for the elderly. However, researchers and mental health planners consider **SSDI** eligibility that is based on a mental disorder to be in itself an indication of severe and persistent mental illness or eligibility for a top priority population category in need of treatment (Goldman, Gattozzi, and Taube, 1981; Ashbaugh and Manderscheid, 1985; Champney, 1991). Below we present estimates of the size of the severely and persistently mentally disabled population and of the number of persons in priority target groups, and link these estimates to the **SSDI** population as appropriate.

Goldman, Gattozzi, and Taube (1981) outlined three components to definitions of the chronically mentally ill: a severe mental illness (diagnosis), a substantial level of functional disability (disability), and a condition that has persisted over a long period of time (duration). Estimates of the size of the chronic population vary depending on the definitions used and the data sources. On the diagnostic dimension, schizophrenia, the major affective disorders, and other psychoses tend to be included with variation in whether organic brain syndrome and/or substance abuse are counted. Personality disorders and anxiety-related disorders are sometimes included (as they are in the **SSDI** standards), but often only if they manifest themselves in multiple longstanding substantial functional impairments. Variations also exist in the number, level, and type of functional impairments required as an indication of disability. Duration is often assessed based on evidence of a pattern of prior use of mental health services, particularly episodes of some type of **24-hour** care.

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<sup>7</sup> Given the prior discussion about the relationship between **SSDI** eligibility and Medicare eligibility, those who become Medicare eligible are likely to be as or more severely mentally disabled than those who fail to retain **SSDI** status long enough to become Medicare beneficiaries. Based on this similarity in populations, we use information on prevalence and treatment in the **SSDI** population to estimate how large a gap there might be between prevalence and treatment rates for disabled Medicare recipients.



Goldman, Gattozzi, and Taube (1981) estimated that during the **1975-77** period, 1.7 to 2.4 million persons (of which 900,000 were estimated to be in institutions) in the U.S. could have been considered chronically mentally ill. They also estimated that during the same period, between 225,000 and 425,000 persons were SSI and **SSDI** eligible, respectively, because of mental disorders.

Since the **ECA** data became available, researchers and state and local mental health agencies have been utilizing this data to identify the proportion of the mentally ill population most in need of services. These efforts allow definitional items to be tailored to diagnostic, disability, and duration items that are most likely to be associated with need for treatment, and they provide information on actual treatment rates from the same data source. One example of this kind of approach is Holzer's (1989) collaboration with the Texas Department of Mental Health and Mental Retardation. In order to develop a Texas definition of those most in need of services, ECA items were selected to define a population having major diagnoses, significant dangerousness and/or dependency, and a duration of at least two years.

The results of the above efforts suggest that approximately 2.6 percent of the noninstitutionalized United States population age 18 and over (approximately 4 million persons) have priority needs based on the presence of a severe, currently active major mental illness combined with significant dangerousness and/or dependency and a duration of at least two years. The figure increases to 3.4 percent if cognitive impairment is included, to 5.3 percent if substance abuse diagnoses are included, and to 6.2 percent if both diagnoses are included. Forty-three percent of those in the priority need group received a mental health service from either a mental health or general medical provider within the last six months, a rate that is higher than for lower priority groups but still indicative of a lack of full service. The proportion of this group receiving services from mental health specialists was only 26.5 percent.

Data from Ohio (Champney, 1991) specifically related to the **SSDI/SSI** mentally disabled population suggest somewhat higher rates of treatment. Roughly 42 percent of the **SSI/SSDI** mentally ill population in Ohio had received treatment from mental health specialists within the public system. The percentage who received treatment would likely have been higher if private providers and general medical providers were also included.

## **D. Rural Communities**

Twenty-five percent of the elderly population resides in rural areas and 96 percent of this group is covered by Medicare (OTA, 1990). The following section addresses existing literature on prevalence and treatment rates and postulated reasons for low utilization among this population.

### **1. Prevalence of Mental Disorders Among the Rural Elderly**

Some characteristics of rural communities such as poorer physical health status of the population, isolation, and poorer housing suggest that the prevalence of mental illness might **be** higher among rural populations than among urban groups. However, literature reviews indicate that differences have not been clearly established, in part because of methodological problems. The rural elderly may be more physically ill than the urban elderly, but it is unclear that this translates into higher rates of mental illness (Hendricks and Turner, 1988). Research by Hendricks and Turner (1988) indicates that reduced access to social support services places the rural elderly at greater risk for mental illness, but other researchers note that community participation, coping strategies, and general well-being may be stronger among this population (Scheidt, 1986). Mental illness among rural populations has been linked to low income, less education, and living alone; each of these factors is more common in the rural elderly population than in the non-rural elderly population (O'Hara, 1985 and DeLeon, 1989).

### **2. Reasons for Low Utilization by the Rural Elderly**

Though differences in prevalence rates are unclear, the rural elderly, like their urban counterparts, use mental health services less often than persons in other age groups. In fact, low utilization by the elderly is particularly low in rural areas. Nationwide, the elderly constitute only four percent of users of CMHC services, but in rural areas this figure is even lower (Scheidt, 1985 and Buckwalter, 1991). Scheidt and Windley (1982, in Scheidt, 1985) note that during their study of "small-town" elderly, only one percent of their population used mental health facilities over the course of a year.

Researchers caution that cultures and attitudes vary significantly across rural populations such that rural areas differ from one another in their mental health needs and service utilization patterns. Nevertheless, certain generalizations have been postulated and/or studied. For example, it has been suggested that the rural treatment gap may be linked to a variety of factors including a lack of providers, particularly mental health specialists; a

shortage in the number and variety of available services; and other factors such as transportation barriers and insufficient financial resources. As Buckwalter notes in her 1991 study of a demonstration outreach program for the rural aged:

“Because limited services are available in rural areas, and because many rural Americans are reluctant to accept services even where they are available, care alternatives are often restricted to crisis intervention or long-term institutionalization.”

The next three subsections address these issues.

### **a. Availability of Providers**

The issue of “provider shortages,” both mental health specialists and general practitioners, dominates the literature on access in rural areas. Seventy-three percent of federal health manpower shortage areas (**HMSAs**) are rural (**DeLeon, 1989**), and in 1988, of the 592 designated psychiatric HMSAs, 87 percent were in rural areas (OTA, 1990). Clinical psychologists who hold a doctoral degree are also scarcer in rural than in urban areas. Masters level psychologists are more numerous than **Ph.D.s** in rural settings (OTA, **1990**), but the services they provide and their ability to be reimbursed by insurers are more limited. Much of the specialty mental health burden in rural areas falls on social workers; approximately 25 percent of rural counties have a social worker as the only mental health professional (OTA, 1990). In addition, paraprofessionals with limited mental health training play an important role in increasing awareness, identifying individuals at risk, and running **self-help** groups in rural communities (OTA, 1990).

A greater proportion of the diagnosis and treatment of mental illness in rural areas is carried out by primary care physicians. Like mental health specialists, primary care providers are less numerous in rural areas than urban areas and are located farther away from their patients (Hendricks and Turner, 1988). In addition, the rural elderly are less likely to visit physicians than their urban counterparts (OTA, 1990) suggesting that mental illness is more likely to go undetected and untreated.

Two other problems that plague both general and specialty rural providers are time constraints and lack of access to continuing education. Rural mental health specialists are more likely to have time consuming administrative and community responsibilities than are

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urban professionals. These time constraints combine with location factors to make it harder for rural providers to keep up with current knowledge on diagnosis and treatment.

### **b. Availability of Services**

Research indicates that mental health services are less available in rural than in urban areas.- A study by Wagenfeld et al. (OTA, 1990) suggests that 13 percent of rural counties have some inpatient psychiatric services compared to 63 percent of urban counties. Rural hospitals also offer "fewer outpatient, emergency, and specialty psychiatric **services**" (OTA, 1990). A particular problem in rural areas is a shortage of crisis services, which are used more frequently by rural than by urban populations (OTA, 1990).

Even where mental health services do exist, lack of awareness remains a major problem; 40 percent to 50 percent of rural residents are not aware that mental health services are available or that they might be helpful (OTA, 1990). However, a successful demonstration outreach program conducted in rural Iowa suggests that it is possible to counter awareness barriers (Buckwalter, 1991). A final problem with mental health services in rural areas is that they are often based on urban models that may be inappropriate to rural settings (Hendricks and Turner, 1988).

### **c. Other Factors**

Other factors such as distance between home and service locations have been offered as explanations for the treatment gap. **Scheidt** (1986) studied the relationship between distance and use of a wide range of services (including grocery stores, churches, senior centers, and physician offices) among the elderly. His findings suggested that distance from a service was an important but not sole determinate of service usage. Mental health facilities were the farthest away (20 to 30 miles) and the least frequently used. This suggests that the combination of distance and other factors such as lack of awareness or less perceived need for the service could explain the lower use of this service compared to others.

A study by **Ecosometrics**, Inc. (1981) indicated that access barriers also include lack of financial resources. In particular, differences in insurance coverage may play a role in utilization of services. As evidenced in Exhibit 3.4.6, the rural elderly are slightly more likely than the urban elderly to have Medicare or Medicaid, but slightly less likely to have private insurance, including supplementary Medi-Gap coverage (OTA, 1990; U.S. Senate Special Committee on Aging, 1988 in **DeLeon**, 1989).

### EXHIBIT 3.4.6

#### HEALTH INSURANCE COVERAGE OF THE RURAL AND NON-RURAL ELDERLY

Type of Coverage	Percent of Rural Elderly	Percent of Urban Elderly
Medicare	96.1%	95.3%
Public Assistance (including Medicaid)	7.6%	5.6%
Private	71.9%	75.0%
Military/VA	6.1%	4.5%
None	0.9%	0.9%

Source: OTA, 1990.

Finally, Coward (1979, in **Scheidt**, 1985) and the OTA (1990) suggest that the rural elderly may be less likely to identify psychological problems for fear of loss of independence or because of fears about confidentiality that arise in rural society where personal and professional relationships often overlap.

#### 3.5 Potential Impact of Expanded Benefits on Utilization of **Services**

The goal of the expanded Medicare benefits was to increase approach utilization of mental health services with the least possible consequent increase in Medicare expenditures. In the sections below, we briefly discuss the three major evaluation questions relating to the potential effects of the expanded benefits on utilization.

##### A. **Has There Been an Increase in the Number of Users of Any Outpatient Mental Health Service?**

The expansion of coverage to psychologists and clinical social workers might be expected to have more impact than other benefit changes on the proportion of beneficiaries using any mental health service. Expanding the number of eligible providers may increase the number of users of outpatient services if a shortage of providers has been one of the barriers to access or if these types of providers are more attractive to potential users. Studies of the nonelderly suggest that extending coverage to new types of mental health professionals in an area where there is sufficient supply of traditionally covered providers is unlikely to result in a

substantial increase in the number of users of mental health services (Fairbanks, 1986; McGuire and Fairbank, 1985).

The above suggests that the impact of expanding coverage to nonphysician providers may be greater in areas where physician supply is lacking, for example in rural areas. In 1990, the Office of Technology Assessment noted that “a major barrier to the utilization of **midlevel** practitioners (e.g., psychologists and social workers) is the limited coverage for their services under Medicare’ (OTA, 1990). Given that social workers are sometimes the only available mental health professionals in rural areas, the recent Medicare expansions of coverage to social workers could have a significant effect on access and utilization. The situation with psychologists is less clear. Masters level practitioners, who make up a disproportionate share of the rural psychologist population, are unaffected by the changes.

**OBRA** 1990 legislation which offered coverage and direct payment to nurse practitioners and clinical nurse specialists in rural areas will likely have less of an impact than the expansion to social workers and psychologists. Less than 2 percent of nurse practitioners in more sparsely populated areas (zero to 60,000 persons) specialize in mental health (OTA, 1990). Clinical psychiatric nurse specialists are more prevalent in rural than in urban areas, but provide significantly less care than psychologists and social workers (OTA, 1990).

The most pertinent information on the potential impacts of expanding coverage to nonphysicians comes from three Medicare demonstration projects: Colorado Clinical Psychology/Expanded Mental Health Benefits Experiment, the Direct Reimbursement of Clinical Social Workers Demonstration Project in Southern California, and the Medicare Mental Health Demonstration. The first two of these experiments found that Medicare extension of coverage to clinical psychologist and clinical social workers, respectively, had only small impacts of the use of these professionals, but substantially larger effects were found for both groups in the last. However, in each case serious problems with the demonstration design and/or evaluation makes it very difficult draw generalized conclusions from the results. These studies are discussed in more detail in Chapter 6.

## **B. Has There Been an Increase in the Intensity of Outpatient Service Use?**

The mental health coverage change that is most likely to affect the intensity of mental health care utilization is the elimination of the annual limit. It is difficult to estimate the extent to which the annual limits curtailed access to a higher intensity of appropriate services. HCFA

data from 1984 reported by **McGuire** (1989) suggest that around 15 to 20 percent of Medicare beneficiaries who used mental health benefits had charges that were at or above the limit. Medicare beneficiaries may receive additional services that are compensated by Medicaid or other payors (including themselves or their families). Without information on non-Medicare expenditures, it is difficult to draw conclusions about the number of beneficiaries who have high levels of outpatient mental health care utilization and for whom the elimination of the ceiling may result in a cost shift.

So long as the coinsurance remains at 50 percent for most outpatient mental health benefits, the inducement to use more services is restrained since the total copayment required of the beneficiary grows correspondingly. One might expect, therefore, that service intensity might increase more substantially for those beneficiaries who have secondary insurance that covers copayments. Secondary coverage will be discussed in the next section.

**C. Has there Been a Change in the Proportion of Mental Health Services to Medicare Beneficiaries Provided by Mental Health Specialists as Compared to Those Provided by General Physician Providers?**

The expansion of coverage to psychologists and social workers could increase the proportion of services provided by mental health specialists. The demonstrations described above suggest, however, that without beneficiary education, awareness may be low and actual utilization of these professionals minimal, especially in areas where there are not shortages of physician providers of mental health services. Additionally, if elderly beneficiaries prefer their regular physician to mental health specialists and if they can avoid the higher mental health coinsurance rate by visiting a general practitioner who could code the visit as a non-mental health visit, the increase in supply of specialist mental health providers may have only a small impact on the type of provided visited.

The other benefit change that could alter the proportion of visits to mental health specialists is the reduction in the copayment for drug management visits from 50 percent to 20 percent. This change could induce beneficiaries to use psychiatrists more often than general medical physicians when they are receiving psychotropic medications because before the benefit change, drug management by general physicians (when not explicitly coded as a mental health service) required a smaller copayment than management by psychiatrists, which was necessarily a mental health service. This effect, if it appears, should be most evident for those beneficiaries lacking secondary coverage for copayments. Since, as discussed earlier, some 70 percent of aged beneficiaries have **Medi-Gap** coverage, the average effect of the reduction in the copayment for drug management visits may be small for the elderly. It could

be greater for the disabled, depending on the extent that the disabled appreciated the copayment differences and received their drug therapies from general physicians.

### 3.6 Medicare Expenditures on Mental Health

The expansion of Medicare mental health benefits was designed to increase utilization with the least possible consequent increase in Medicare expenditures. In this section, we provide background material on expenditures for mental health services (Section A) as well as on Medicare's role in financing mental health services (Section B).

#### A. Overview of Funding Sources and Expenditures for Mental Health Services

##### 1. Mental Health Expenditures in the United States

Before turning to our discussion of Medicare mental health outlays, we provide some background on overall mental health expenditures in the United States. Most of the material in this section is drawn from Taube's analysis in *Mental Health United States*, 1990 because it is one of the most complete analyses of trends in health and mental health spending. However, Taube's findings should be considered with caution. His data were collected from a variety of sources whose methods and periods of study may not be entirely comparable. In addition, many of his figures are from the early 1980s and do not account for recent changes in benefit coverage that may affect expenditure levels.

Exhibit 3.6.1 shows how expenditures for mental health and other health care services are broken down by **payor**. While government dollars fund 56 percent of mental health outlays, they only fund 38 percent of other health care expenditures. Correspondingly, direct payments by patients and private insurers make up a higher proportion of other health outlays than of mental health outlays. In addition, state and local governments fund a significantly higher proportion of mental health expenditures than of other health expenditures.



**EXHIBIT 3.6.1****EXPENDITURES FOR MENTAL HEALTH AND OTHER HEALTH CARE  
BY SOURCE, 1960 (DOLLARS IN BILLIONS)**

<b>Payment Source</b>	<b>Dollars Spent on Mental Health</b>	<b>Percent of Total Mental Health Care Expenditures</b>	<b>Dollars Spent on Other Health</b>	<b>Percent of Total Other Health Care Expenditures</b>
<b>All</b>	18.4	100.0%	201.0	100.0%
<b>All Levels of Government</b>	10.3	56.0%	77.3	38.5%
<b>Federal</b>	4.3	23.4%	58.6	29.2%
<b>State/Local</b>	6.0	32.6%	18.7	9.3%
<b>Insurance/Direct Pay</b>	8.1	44%	123.7	61.5%

Source: Taube, 1990.

Exhibit 3.6.2 shows how expenditures for mental **and medical** illness vary by the type of service provided and suggests that while inpatient hospital care is the largest expense category for both physical and mental illness, it accounts for a more significant proportion of mental health outlays.

**EXHIBIT 3.6.2****EXPENDITURES FOR MENTAL AND MEDICAL ILLNESS  
BY TYPE OF SERVICE PROVIDED, 1960**

<b>Expense Category</b>	<b>Percent of Mental Illness Expenditures (Total = \$18.4 billion)</b>	<b>Percent of Medical Illness Expenditures (Total = \$199.2 billion)</b>
Hospital Care	55.4%	44.1%
Physician Services	0.7%	22.7%
Other Professional Services	4.3%	2.4%
Nursing Home Care	2.7%	9.4%
Drugs and Medical Sundries	2.7%	9.4%
Other	19.0%	11.9%

Source: Taube, 1990.

Exhibit 3.6.3 indicates the significant changes that have occurred in the location of mental health inpatient beds over the decade from the mid 1970s to the mid 1980s.

### EXHIBIT 3.6.3

#### EXPENDITURES FOR PSYCHIATRIC INPATIENT HOSPITAL CARE OVER TIME (DOLLARS IN BILLIONS)

Inpatient Setting	Inpatient Hospital Expenditures					
	1986 (Total=\$21.4 billion)		1980 (Total=\$10.2 billion)		1975 (Total=\$6.7 billion)	
	\$	%	\$	%	\$	%
General Hospitals	11.1	51.8%	4.2	40.8%	2.4	35.1%
Psychiatric Units	2.9	13.4%	1.7	18.8%	0.8	11.9%
Scatter Beds	8.2	38.3%	2.4	24.0%	1.8	23.2%
Psychiatric Hospitals	10.3	48.2%	8.0	59.2%	4.3	84.9%
State	8.3	29.6%	4.1	40.8%	3.2	47.5%
Private	2.8	12.3%	0.9	9.1%	0.5	7.0%
VA	1.3	8.3%	1.0	9.5%	0.7	10.4%

Source: Taube, 1990.

The percent of inpatient expenditures directed to general hospitals grew from 1975 to 1986, while the percent of inpatient dollars directed to psychiatric hospitals, particularly state hospitals, dropped dramatically.

While inpatient mental **health expenditures were \$10.2 billion in 1980**, outlays for ambulatory services were only about half that amount (Taube, 1990). Outpatient expenditures were also distributed across a variety of settings with more than half of such care being provided within organized settings as opposed to private offices, and with most of the organized settings being outside of hospitals, as shown in Exhibit 3.6.4.

# EXHIBIT 3.6.4

## EXPENDITURES FOR AMBULATORY MENTAL HEALTH CARE BY SETTING, 1980 (DOLLARS IN MILLIONS)

Ambulatory Setting	Dollars Contributed to Setting (Total=5,359.2)	Percent of Total Dollars	Percent of Dollars in Organized or Office-Based Setting
Organized Settings	3,153.2	56.6%	100.0%
Mental Health Clinics	2,715.0	50.7%	66.1%
General Hospital Outpatient	272.3	5.1%	6.6%
Psychiatric Hospital Outpatient	165.4	3.1%	5.2%
Off ice-Based	2,206.0	41.2%	100.0%
Psychiatrist	799.7	14.9%	36.3%
Psychologist	666.6	16.5%	40.2%
Other Physician	519.7	9.7%	23.6%

**Source:** Taube, 1990.

Social workers **were** not included in the **study**.

Services in clinic settings, which account for almost 90 percent of ambulatory expenditures in organized settings, are funded from a variety of sources, as shown in Exhibit 3.6.5. State governments are the dominant funding source, accounting for over half of expenditures in multi-service mental health organizations and over one-third of expenditures in outpatient mental health clinics.

In sum, overall mental health expenditures are primarily funded by government dollars, especially for inpatient care. Funding is distributed across a variety of inpatient and outpatient settings including general acute care hospitals, psychiatric hospitals, clinics, and provider offices. Most expenditures for ambulatory care occur in clinic settings rather than in hospital outpatient departments or in psychiatrist and psychologist offices.

### EXHIBIT 3.6.5

#### SOURCES OF FUNDING FOR AMBULATORY MENTAL HEALTH EXPENDITURES IN MULTI-SERVICE MENTAL HEALTH ORGANIZATIONS AND OUTPATIENT MENTAL HEALTH CLINICS, 1966 (DOLLARS IN MILLIONS)

Funding Source	Mental Health Expenditures			
	Multi-Service Organization (Total = \$3,756 million)		Outpatient Clinic (Total = \$522 million)	
	\$	%	\$	%
Federal	653.5	17.4%	77.3	14.8%
State	1,923.1	51.2%	174.9	33.5%
Local	597.2	15.9%	111.2	21.3%
Fees/Insurance	353.1	9.4%	76.2	14.6%
Other	225.4	6.0%	83.0	15.9%

Source: Taube, 1990.

#### 2. Medicare Financing for the Mentally Ill

Prior to 1988, Medicare spent less on mental health services than other payors. Less than three percent of total Medicare dollars were spent on substance abuse and mental health services in 1987 (Lave and Goldman, 1990). In contrast, eight percent of total health expenditures are for mental health services (Taube, 1990), and an estimated seven percent to 18 percent of private insurance payments are for substance abuse and mental illness (Lave and Goldman, 1990). However, these percentage differences may not be as significant as they appear because of differences in the physical health status of Medicare and other populations. Because the elderly tend to have greater physical health needs than younger persons, Medicare may spend a higher proportion of dollars on physical health than do other insurers. Lave and Goldman do note that lack of Medicare coverage for social support and other long-term care services results in a limited role for Medicare in providing services to the chronically mentally ill (Lave and Goldman, 1990).

As shown in Exhibit 3.6.6, Medicare Part A expenditures for mental health grew somewhat between 1984 and 1987, while Part B expenditures remained stable. Lave and Goldman attribute this growth to increases in the mentally ill **SSDI** population (see section 3.2) who, because of their greater impairments, are more likely to use inpatient mental health services.

### EXHIBIT 3.6.6

#### MEDICARE EXPENDITURES DEVOTED TO MENTAL HEALTH AND SUBSTANCE ABUSE SERVICES (DOLLARS IN MILLIONS)

Medicare Expenditure Type	1984	1985	1986	1987
Total Medicare Expenditures	60,000	69,649	74,167	79,750
Part A	41,476	47,641	49,016	49,613
Part B	19,473	21,606	25,169	29,937
Mental Health & Substance Abuse Only	1,451	1,756	2,004	2,166
Part A	1,274	1,571	1,762	1,915
Part B	177	167	222	253
% of Total that is <b>MH/SA</b>	2.4%	2.5%	2.7%	2.7%
% of Part A that is <b>MH/SA</b>	3.1%	3.3%	3.6%	3.6%
% of Part B that is <b>MH/SA</b>	.9%	9%	.9%	.8%

Source: Lave and Goldman, 1990, based on unpublished data from the Health Care Financing Administration and estimates of benefit payments.

Exhibit 3.6.7 shows how Medicare payments were distributed among inpatient, outpatient, and physician services in **1981**. The share of Medicare mental health expenditures that are devoted to inpatient care is even larger than the share of overall expenditures for that purpose (see Exhibit 3.6.2).

Medicare outlays for outpatient mental health care have historically been limited by expenditure caps and high copayments (Taube, 1990). Lave and Goldman (1990) suggest that the expanded outpatient benefits are not intended to increase overall spending on mental illness, but are expected to remove incentives favoring inpatient care and to shift care to outpatient settings.

### EXHIBIT 3.6.7

#### MEDICARE MENTAL ILLNESS PAYMENTS BY TYPE OF PROVIDER, 1981 (DOLLARS IN MILLIONS)

Provider	Total Dollars	Percent of Total
All	995.1	100.0%
Inpatient		
Short Stay Hospital	630.8	63.4%
Psych Hospital	189.1	19.0%
Outpatient Hospital	45.8	4.6%
Other Institution	15.9	1.6%
Physicians'		
Psychiatrist	112.4	11.3%
Psychologist	1.0	0.1%

Source: Taube, 1990.

Medicare mental health expenditures are disproportionately attributable to **SSDI** beneficiaries. Goldman, Taube, and Jencks (1987) estimate that roughly 10 percent of **SSDI** Medicare beneficiaries account for 30 percent of Medicare mental health services and **50** percent of mental health expenditures. **SSDI** Medicare beneficiaries account for about 30 percent of mental health hospital discharges, even though they only account for about 11 percent of overall Medicare discharges (Lave and Goldman, 1990).

### 3. Medicaid

Medicaid is discussed briefly here because of the importance of dual Medicare/Medicaid coverage to the analysis of the Medicare benefit changes. As previously noted, Medicaid coverage of **QMBs** and dual eligible may affect the use of Medicare services and Medicare dollars. The relationship could work in the opposite direction as well. For example, the elimination of the Medicare limit could result in increased Medicaid outlays for Medicare deductibles and coinsurance.

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<sup>8</sup> Taube (1990) notes that in 1980, approximately 70 percent of payments to psychiatrists were for services provided in hospitals; assuming a similar percentage breakdown for 1981 suggests that about 90 percent of Medicare outlays in that year were for inpatient services.

Overall, Medicaid expenditures (like those of Medicare and other payors) are allocated to inpatient care. However, in contrast to Medicare, Medicaid spends less on hospital services and more on nursing home care (Taube, 1990). Medicaid also funds a greater proportion of community-based care for the chronically mentally ill than does Medicare.

As noted earlier, states have some leeway in the determination of eligibility standards for Medicaid. Considerable flexibility also exists in the types of services covered resulting in differences across states in benefit packages for the mentally ill and in Medicaid service use patterns (Mental Health, *United States, 1987*; NASMHPD, 1991). For example, Medicaid mental health users in New York average nearly twice as many annual visits as enrollees in California and Michigan (*Mental Health, United States, 1987*).

By federal mandate, states must cover inpatient and outpatient hospitalization, laboratory and x-ray services, physician visits, and several other services for all Medicaid enrollees regardless of diagnosis (*Systemetrics/McGraw Hill, 1990*). However, other benefits such as psychosocial rehabilitation services, prescription drugs, institutional psychiatric services for individuals over age 65, partial hospitalization, case management, crisis intervention, and psychological testing are optional.

One Medicaid benefit that is particularly relevant in light of the Medicare changes is partial hospitalization; this service is covered in 34 state Medicaid programs (NASMHPD, 1991). A more complete state-by-state breakdown of Medicaid coverage for mental health services is available from the National Association of State Mental Health Program Directors (NASMHPD) 1990 survey of state mental health agencies.

## **B. Defining the Appropriate Role for Medicare**

The mechanisms and distributions of mental health care financing discussed in the preceding section may change in response to the new Medicare outpatient coverage. In crafting an expanded outpatient benefit, Medicare has attempted to provide a fair level of coverage consistent with the general scope of the program. However, Medicare is designed to be a medical insurance program that covers acute services and the medical management of chronic illness. It does not provide the full range of social supports and other long-term care services needed by persons with chronic illness, either physical or mental.

Mental health advocates have long argued that the 50 percent coinsurance and the dollar limit on the total outpatient benefit unfairly discriminate against the mentally ill by not

allowing them the same level of services for their acute care needs as is received by the physically ill. Two of the recent benefit changes were steps in the direction of greater parity with the treatment of physical disorders. One was the reduction in the copayment for brief office visits for the monitoring of medications used in the treatment of mental illness. The other was the elimination of the annual dollar limit.

One can also weigh the parity issue in relationship to private coverage for outpatient mental health benefits. The U.S. Bureau of Labor Statistics (BLS) periodically analyzes mental health and substance abuse benefits for employees of state and local governments, small private firms, and medium and large private firms. The data is based on the BLS Survey of Employee Benefits, which was last conducted in 1990 for governments and small firms and in 1989 for medium and large firms. The survey addresses inpatient and outpatient coverage rates, benefit limitations, coinsurance\*, and copayments under fee-for-service and HMO plans. While comparisons to certain individual Medicare provisions are possible, comparisons of comprehensive benefits provisions are not because annual limits and coinsurance rates are analyzed separately. In addition, the data does not include information about nonphysician mental health providers.

Exhibit 3.8.8 provides information about outpatient mental health coverage for full-time participants in insurance plans.

In general, most persons in fee-for-service plans and **HMOs** are covered for outpatient mental health benefits. However, as with Medicare, these individuals are subject to stricter limitations for outpatient mental health benefits than for physical health services. For persons whose plans required special outpatient mental health coinsurance rates, rates were comparable to Medicare mental health coinsurance rates (not withstanding the recent change in the rate for medication monitoring visits)."

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<sup>9</sup> Up to this point we have referred to the Medicare 50 percent and 20 percent cost-sharing provisions as copayments. The Bureau of Labor Statistics and **InterStudy** refer to such **cost-sharing** as coinsurance. In this section, we follow their convention for purposes of discussion. "Coinsurance" refers to the patient's contribution of a percentage of cost. "Copayment" refers to a per visit charge that is fixed regardless of actual visit cost.

<sup>10</sup> The Labor Bureau data does not provide information about coinsurance rates for policies where special mental health coinsurance rates do not apply, but we assume that these rates are closer to 20 percent which is standard for non-mental health policies.



### EXHIBIT 3.6.8

**PERCENT OF FULL-TIME PARTICIPANTS IN INSURANCE PLANS WHO HAVE  
OUTPATIENT MENTAL HEALTH COVERAGE AND EXTENT OF COVERAGE  
(PERCENTAGES MAY NOT SUM BECAUSE OF THE PRESENCE OF MULTIPLE LIMITS)**

Limitation	State and Local Governments (1990)	Small Firms (1990)	Medium and Large Firms (1989)
With Mental Health Coverage	96%	97%	95%
Covered the Same as Other Illnesses	1%	1%	2%
Subject to Separate Limitations	94%	95%	92%
Limit on Days/Visits	38%	35%	34%
Limit on Dollars	66%	77%	66%
Special Coinsurance Rate:	48%	63%	56%
50 Percent	38%	53%	43%
Other	10%	10%	13%
No Ceiling on Out-of-Pocket Expenses for Mental Health	36%	55%	41%
Separate Copayment or Deductible	16%	9%	14%
Not Covered	4%	3%	5%

Source: Bureau of Labor Statistics, 1990, 1991, and 1992.

In addition, 29 to 64 percent of persons studied faced annual dollar limits on outpatient mental health services. These percentages jump to 66 to 77 percent when all types of dollar limits are included. Because the dollar amount of these limits is not available from the data, it is impossible to compare these limitations to the previous Medicare limit.

Exhibit 3.6.9 shows how coverage in plans in medium and large firms has changed over time.

**EXHIBIT 3.6.9**

**PERCENT WITH OUTPATIENT COVERAGE OVER TIME IN MEDIUM AND LARGE FIRMS**

<b>Limitation</b>	<b>1980</b>	<b>1985</b>	<b>1989</b>
<b>With Coverage</b>	<b>93%</b>	<b>97%</b>	<b>95%</b>
<b>Covered the Same as Other Illnesses</b>	<b>10%</b>	<b>5%</b>	<b>2%</b>
<b>Subject to Separate Limitations</b>	<b>83%</b>	<b>91%</b>	<b>92%</b>
Limit on Days/Visits	20%	26%	34%
Limit on Dollars	58%	71%	66%
50 Percent Coinsurance	54%	54%	43%
No Ceiling on Out-of-Pocket Expenses for Mental Health	--	52%	41%
<b>Not Covered</b>	<b>7%</b>	<b>3%</b>	<b>5%</b>

Source: Bureau of Labor Statistics, 1990 and Blostin, 1987.

The percentage of individuals with outpatient mental health benefits was higher in 1985 and 1989 than in 1980, but the percentage subject to separate mental health coverage limitations (particularly limitations on the number of days or visits) was also higher. By 1989, the percent of persons facing a special 50 percent coinsurance limit for mental health services had dropped from 54 percent to 43 percent. However, it is unclear from the data whether mental health coinsurance rates changed or whether special mental health rates were dropped in favor of overall coinsurance rates for physical and mental health services.

BLS also collects separate data on coverage for alcohol and drug abuse. The percentage of individuals in medium and large-sized firms with coverage for outpatient alcohol and drug services, respectively, was 61 percent and 58 percent (BLS, 1990). Employees of smaller firms and of state and local governments were more likely than their counterparts in medium and larger firms to have outpatient coverage for alcohol abuse (BLS, 1990, 1991, 1992). Individuals in all three types of employment were subject to separate limitations on outpatient substance abuse services, the most common of which were limits on the number of annual visits and on annual or lifetime expenditures (BLS, 1990, 1991, 1992). More extensive

data on substance abuse coverage is available from the Bureau of Labor Statistics.

Data published by **InterStudy** provide information on mental health and substance abuse coverage in 409 **HMOs**. In 1989, 90 percent of **HMOs surveyed** limited the number of ambulatory mental health visits per benefit period (to an average of 22 days) while only 17 percent limited total payments .per benefit period (**InterStudy**, 1991). Seventy percent of **HMOs** required per visit copayments (**InterStudy**, 1991). Coinsurance for outpatient mental health- visits was used by 16 percent of **HMOs** surveyed; in these situations, enrollees paid approximately 43 percent of visit costs via coinsurance provisions (**InterStudy**, 1991). It is difficult to contrast HMO coverage with Medicare coverage because of the more frequent use of visit limits (rather than dollar limits) and because of the combined use of coinsurance and copayments.

**InterStudy** data also provide some insight into the types of services covered and the types of professionals providing those services. Primary ambulatory services covered by **HMOs** include services covered by Medicare: individual, group, and family therapies. In addition, partial hospitalization was used for mental health and substance abuse services, respectively, at 67 percent and 68 percent of **HMOs** (**InterStudy**, 1991). Exhibit 3.6.10 gives information about the different types of providers of mental health services covered in the survey sample and suggests that **HMOs** frequently use both social workers and psychiatric nurses in addition to psychiatrists and psychologists.

#### EXHIBIT 3.6.10

##### PERCENT OF HMOS USING VARIOUS MENTAL HEALTH PROVIDERS

Type of Provider	Percent of HMOs Offering Services
Psychiatrist	99%
Ph.D. Psychologist	97%
Social Worker	90%
Psychiatric Nurse	66%

Source: **InterStudy**, 1991.

Thus far our discussion of the appropriate role for Medicare has focused on coverage parity with Medicare physical health benefits and with private payors. Another issue to consider is a potential expansion of Medicare's mental health benefit into areas covered by

other public payors. For example, both medication monitoring and partial hospitalization are common components of public programs for the chronically mentally disabled; many states cover drug monitoring and most cover partial hospitalization under their Medicaid plans (see Section 3.6.3). The potential shifting of expenditures from other payors to Medicare may, therefore, become a concern with regard to the impact of the benefit expansion.

The appropriate scope of Medicare benefits for mental health services is an important issue as discussions of national health insurance and the role of Medicare in the provision of long term care are debated. Policy makers may look to this evaluation for insights into the implications of varying approaches to outpatient mental health coverage.

### **3.7. Potential Impact of Benefit Expansion on Medicare Expenditures.**

There are three ways in which the expanded outpatient benefit might result in a more efficient system of care; this in turn could minimize the impact of the expanded benefit on Medicare expenditures on mental health. First, the expansion could reduce the unit costs of outpatient mental health services. Second, the expansion could result in a cost-saving shift from inpatient to outpatient care. Third, there could be an offsetting reduction in the utilization of and expenditures for non-mental health services.

#### **A. Effects on Unit Cost of Mental Health Services**

Nonphysicians, particularly social workers, generally see clients with less severe disorders than do psychiatrists (Haber and McCall, 1966; MMHD, 1967; Taube, Burns and Kessler, 1964). Assuming that the services provided by psychologists and social workers are appropriate for the clients they are treating, the costs of serving these beneficiaries should be less on a per-visit basis than the costs of providing services via more expensive psychiatrists and other physicians. Additionally, psychiatrist and other physician charges could decrease because of competition with newly covered nonphysician providers. Physicians may, however, generally increase fees and/or service intensity when faced with competition to maintain a target income. There is little or no evidence in the Medicaid economics literature that shows that competition lowers physician fees or incomes.

There are two caveats to assuming that this lowered per-visit cost will translate into lower total Medicare costs. One is that the services provided by psychologists and social workers must be substitutes for services that would otherwise have been provided by psychiatrists or other physicians, as opposed to additional services. Second, the intensity of

services must not increase by an amount sufficient to offset the per-visit cost savings. In the Direct Reimbursement of Clinical Social Workers Demonstration Project (Haber and McCall, 1989) there was an indication that social workers provided more services to the average patient than did other mental health providers.

## **B. Substitution of Outpatient Care for Inpatient Care**

As indicated in the prior section, mental health expenditures in general are more institutional-based than other health services. Medicare's mental health benefit has been heavily hospital-oriented, and the distribution of expenditures has reflected that. A critical evaluation question will be whether this has changed. The two benefit changes that bear most directly on this question -- partial hospitalization and the removal of the annual limit -- are discussed below.

### **1. Partial Hospitalization**

Partial hospitalization is a broad term that both Congress and industry groups have struggled to define. Although partial hospitalization programs were in **place during the 1960s**, industry groups did not provide standards for these programs until 1982. Congress defined partial hospitalization for purposes of Medicare reimbursement in 1987 when it enacted the definition contained in section 3112.7.C of the Intermediary Manual. HCFA is currently in the process of clearing a final rule on partial hospitalization; an existing regulation defines partial hospitalization under Medicare (42 CFF? 410.2). The current Medicare definition of partial hospitalization is:

“a distinct and organized intensive ambulatory treatment service, less than **24-hour** daily care specifically designed for the diagnosis and active treatment of an individual's illness when there is a reasonable expectation for improvement or to maintain a patient's functional level and to prevent relapse or hospitalization.”

In order to qualify for reimbursement for partial hospitalization under the Medicare definition, the services must prevent relapse or rehospitalization, and either improve or maintain the patient's level of functioning. Medicare coverage includes individual and group therapy, drugs and **biologicals** that cannot be self-administered, family counseling, patient education, diagnostic services, and occupational therapy. Medicare will not reimburse activity or psychosocial therapies alone, but will cover these therapies if they are **part** of a treatment plan. Each component of a partial hospitalization program is to be evaluated separately in terms of whether or not the criteria for reimbursement are being met.

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The most detailed partial hospitalization standards come from industry groups such as the American Association for Partial Hospitalization (AAPH) and the National Association of Private Psychiatric Hospitals (NAPPH). AAPH defines the goals of partial hospitalization service provision as:

“Partial hospitalization is defined as a time-limited, ambulatory, active treatment program that offers therapeutically intensive, coordinated, and structured clinical services within a stable therapeutic milieu...Programs are designed to serve individuals with significant impairment resulting from a psychiatric, emotional or behavioral disorder.’

AAPH and NAPPH together define the goals of partial hospitalization as:

“A partial hospital program is furnished by either a hospital or freestanding entity to prevent inpatient hospitalization or as a transitional facility to shorten hospital stays and ease re-entry into the community. It provides hospital-level treatment for patients in acute crises, and an individualized, written plan for treatment must be developed by a qualified mental health professional upon initial contact with the patient. The plan and treatment goals must be approved and periodically reviewed by a physician.’

According to these two industry groups, partial hospitalization programs are aimed at seriously mentally ill individuals whose needs for integrated and comprehensive treatment cannot be met in an outpatient clinic. According to AAPH, individuals suitable for admission include those who have difficulty functioning on a daily basis, are not dangerous to themselves or others, have a community-based support network, are able to actively participate in all parts of the program, have not done well or would not do well in a traditional outpatient setting, and no longer require inpatient services. Day programs generally offer 20-30 treatment hours per week over a minimum of five days while evening programs are more limited. Staffing is multidisciplinary, and length of stay depends on the patient. Discharge criteria include improvement in clinical condition, accomplishment of treatment goals, and increased independence.

AAPH and NAPPH indicate that diagnostic services; services of social workers, psychiatric nurses and staff trained to work with psychiatric patients; individual, group, and family therapies; activities (e.g., social and recreational events) and occupational therapies; patient education; and chemotherapy and biological treatment interventions for therapeutic purposes should be available in partial hospitalization programs. With the exception of activities, this set of services nearly parallels the Medicare-defined services. AAPH and NAPPH mention additional services that could be included such as programs for developing communication, stress management, symptom recognition, and problem-solving skills.

Despite the fact that the number of partial hospitalization programs more than doubled between 1970 and 1986, the use of partial care services increased by less than one percent (*Mental Health, United States, 1990*). Leibenluft and Leibenluft (1988) report barriers to the use of partial hospitalization resulting from inadequate reimbursement/coverage, clinician bias, hospital needs to maintain **occupancy**, and family preferences. Most growth in partial programs has been in services to the child and adolescent populations rather than the adult disabled or the elderly.

The Leibenluft and Leibenluft study provides the most thorough review of third party coverage for partial hospitalization. They report that of 16 private third party payors, two did not cover partial care at all, four covered partial care in all policies, and 10 did not usually cover partial care but would write extracontractual agreements to cover it. Of 26 states with mandated mental health benefits in 1988, seven included partial hospitalization. Insurers, in particular, are wary about including partial hospitalization as a general benefit for fear that it will become an additional benefit rather than merely a substitute for hospital care.

**HMOs** and Medicaid programs cover partial care as well. While private insurers usually use partial care as a substitute for inpatient care, **HMOs** use it to reduce inpatient length of stay. Few studies have looked at whether or not the second type of use is **cost-effective**. As previously noted, in 1990, 34 states covered partial hospitalization under their Medicaid programs.

Total revenues for partial care programs in 1986 were roughly \$67 million. Medicaid accounted for nearly 10 percent of this amount, whereas Medicare's contribution was less than one percent (*Witkin, et al., 1990*). State and local governments provided over half the funding for such programs (*Witkin, et al., 1990*).

There is reason to expect that there could be a substantial increase in the use of the Medicare partial hospitalization benefit. First, when the partial hospitalization benefit was instated in 1987, partial hospitalization services not provided directly by a physician were exempted from the special mental health copayment and the now defunct annual limit. This may have resulted in a shift of some patients from traditional outpatient care to partial hospitalization programs. Second, since October, 1991 the Medicare benefit has included coverage for partial hospitalization services provided in **CMHCs** in addition to coverage of partial hospitalization services provided in hospital outpatient departments. Finally, based on the Medicare Mental Health Demonstration, heightened awareness may result in increased utilization. During the MMHD, the partial care benefit was used extensively; expenditures on

the benefit represented 56 percent of the total costs of outpatient mental health services during the demonstration period. However, the comparability of the service in the MMHD project to the new benefit is not totally clear. The MMHD definition excluded services in hospital outpatient departments, but was otherwise quite general:

“Partial hospitalization consisted of a stay in a CMHC or other like center of four or more hours per day over an extended period of time.”

During the MMHD, partial hospitalization stays included group and individual therapy, but particular services were not specified. Like the current Medicare definition, the MMHD definition did not specify the frequency of visits to partial hospitalization programs for a given individual; under MMHD, frequency of visits varied from daily to a few days per week.

The expansion of the benefit to freestanding sites will increase the supply of providers since 68 percent of partial care admissions in 1990 occurred in multi-service mental health organizations, with the remaining smaller portion occurring at hospital-based programs (*Mental Health, United States, 1990*).

Several factors suggest that the Medicare partial hospitalization benefit might be used more by the disabled than by the elderly. First, recent utilization rates suggest that mental illnesses more common among the disabled are also more common in partial hospitalization programs. For example, approximately 50 percent of the mentally ill **SSDI** population (under 65) suffers from schizophrenia (Jack Schmulowitz, SSA), a diagnosis that also accounts for 47 percent of the individuals in partial care programs (Rosenstein, et al. in *Mental Health, United States, 1990*). Second, several studies indicate that Medicare disabled beneficiaries are more likely than the elderly to be hospitalized for a mental disorder, and the AAPH notes that partial care is best-used for patients who cannot be treated successfully in traditional outpatient programs. Thus, the use of partial hospitalization as either a substitute or complement to inpatient care or as a preventive measure will disproportionately impact the disabled. Third, data on individuals in partial care programs indicate that persons aged 25-64 use the service at a rate about twice that of persons aged 65 and over (Rosenstein, **Milazzo-Sayre**, and Manderscheid, 1990). Finally, though the partial hospitalization definition under the MMHD differs from the current definition, making exact comparisons difficult, the partial care **benefit** was used more by the disabled than by the elderly in the MMHD.

Partial hospitalization can substitute for inpatient care by either replacing an inpatient stay entirely or reducing the length of an inpatient stay. Incentives for greater use of partial hospitalization under Medicare vary by provider and beneficiary status. Since hospitals are



paid on a per-discharge basis for inpatient care, they have an incentive to shorten lengths of stay but not necessarily to divert a questionable hospital admission. Therefore, it would appear that Medicare's costs could increase if partial hospitalization is used to shorten lengths of stay.

In certain situations, incentives to shorten length of stay differ under TEFRA and PPS. Under TEFRA, reimbursement is structured in such a way that if costs for a case are below the hospital's target payment amount for that case, then the hospital will receive a "bonus" of some portion of the difference between the amounts. From FY 1986 through FY 1991, once costs reached the target amount, the hospital's share of additional cost became 100 percent, just as under PPS. Beginning in FY 1992, however, costs in excess of the target amount are partially recognized, up to 10 percent of the target amount.

From the beneficiary's perspective, there is a financial disincentive to being discharged from the hospital into a partial hospitalization program since once the inpatient coinsurance is met there is no additional out-of-pocket charge for the hospital stay, whereas the partial hospitalization would require a coinsurance payment. A beneficiary with the choice of partial hospitalization as a substitute for a hospital admission would face the financial tradeoff between the inpatient deductible and the anticipated coinsurance for the duration of participation in the partial hospitalization program. These financial incentives may be less important for the beneficiary who has secondary coverage for deductibles and coinsurance. Finally, the combination of eliminating the overall limit for outpatient services and expanding the partial hospitalization benefit could result in a substantial increase in use by the Medicare/Medicaid QMB and dual eligible population, at least some of which might represent a shift from Medicaid to Medicare reimbursement.

How the benefit is implemented will also impact potential expenditures on partial hospitalization. Because no regulations have been issued, there may be flexibility in how fiscal intermediaries interpret the definition and in the coverage and related medical review standards they develop. Most private payors who encourage partial hospitalization, either as a regular benefit or on a contractual basis, have instituted utilization review procedures that generally apply the same criteria to the patient's status and the need for treatment as would be used for justifying inpatient care. This is a way of limiting the use of the benefit to instances in which it is truly a substitute for inpatient care.

## 2. Removal of the Annual Limit

As indicated earlier, the data on the number of Medicare beneficiaries who have reached the prior Medicare outpatient limit is only suggestive of the actual barrier since it does not include information on other sources of payment for care. If outpatient services are to serve as a substitute for inpatient care, the intensity of outpatient services is likely to be higher than under the old limit. Particularly with the mentally disabled population, the continuity and duration of services necessary to avoid hospitalization may result in expenditures above the prior limit. In addressing changes in distribution of Medicare expenditures, it will be important to assess the extent to which increased outpatient expenditures are the result of beneficiaries who exceed the prior annual limit.

### C. Offsetting Effects

At its most general level, the ‘offset’ argument asserts that the provision of appropriate mental health services will reduce the cost of physical health services. The fact that utilizers of mental health services tend to have significantly higher general health care costs lends credibility to the belief that appropriate mental health services might reduce utilization of general health services.

The evidence supporting an off set effect is mixed. Lave (1990) concludes that, despite methodological problems with many of the studies, **meta-analyses** of the offset literature indicate that treatment for mental disorders is accompanied by a 20 percent overall reduction in the use of non-mental-health services. In addition, **Mumford** et al. (1964) found that the size of offset effects increases with age. Neither the Colorado Clinical Psychology/Expanded Mental Health Benefits Experiment nor the Direct Reimbursement of Clinical Social Workers Demonstration Project yielded evidence of reduced general health expenditures, but substantial effects were found in the Medicare Mental Health Demonstration. However, as mentioned earlier, flaws in the designs of these experiments and/or in the evaluations make it difficult to draw general conclusions from their results. A more detailed discussion of offset studies can be found in Chapter 6.

Some of the offset savings that might result from the expansion of ambulatory mental health benefits, particularly for the elderly, might not result in Medicare savings. For example, a number of the characteristics that place someone at high risk of entering a nursing facility (impaired mental status, deteriorated functional levels, and behavior that stresses caregivers) are amenable to mental health interventions. To the extent that these conditions are

ameliorated and placements averted or postponed by expanded outpatient mental health coverage, the savings will accrue to the beneficiaries, their families, and to the Medicaid program, but not to Medicare.



## **CHAPTER 4**

### **DETAILED PLAN FOR THE TRACKING STUDY**

#### **4.1 Introduction**

The tracking study will examine how utilization and expenditures associated with mental health services received by Medicare beneficiaries have changed over time, and compare the timing of changes to the implementation dates of Medicare Part B mental health coverage expansions. The Part B mental health policy changes liberalized reimbursement for professional services (i.e. services provided by physicians, psychologists, clinical social workers, and nurse practitioners) by raising, and then eliminating, annual dollar limits on mental health reimbursement; expanding billing privileges to psychologists, clinical social workers, and nurse practitioners; and explicitly extending coverage to partial hospitalization programs, but did not change payment policy for institutional providers (i.e. hospitals, **SNFs**, home health agencies, and hospices). The tracking study is designed to estimate changes in mental health care utilization associated with the expansion of Part B coverage and, therefore, focuses primarily on partial hospitalization and professional services provided to beneficiaries other than hospital inpatients.

The tracking study is designed to address broad evaluation questions (see Chapters 1 and 3). Evaluation questions **1-4** (see Chapter 1) will be answered by the tracking study by using estimates developed for specific analysis topics. The analysis topics focus on narrower issues than the evaluation questions and are, therefore, more suitable for data analysis. The analysis topics themselves incorporate even narrower sub-topics that could be answered by the proposed data analysis, but not all are critical to answering the evaluation questions. The analysis topics and sub-topics associated with each evaluation question are presented in Section 4.4.

In order to address the analysis topics and ultimately the evaluation questions, a large panel (longitudinal) data set will be constructed from the HCFA claims data for the period from

1986 to 1994 (“study period”).<sup>1</sup> These data will be used to measure changes in the utilization of and expenditures for mental health services.\* Frequency tables and average values of utilization and expenditure data will be constructed for each analysis topic and study year. Results will be presented in a series of tables, including ‘stratified’ tables for various subgroups of the Medicare population and tables in which results have been adjusted to control for changes in characteristics of the Medicare population. Simple graphs will be constructed from the data in the tables to help evaluators and others visualize the changes that have occurred.

A general description of the data that will be used in this study appears in the next section, along with a discussion of important limitations imposed on the study by the data. In Section 4.3, the basic study design is described and applied to an illustrative analysis topic. The methods described in the example will be applied to other analysis topics, and details that are specific to each analysis topic are discussed in Section 4.4. The statistical methods that will be used to adjust data for changes in the characteristics of the Medicare population are discussed in Section 4.5. More data details, such as technical definitions of the variables and data weaknesses, are given in Section 4.6.

## 4.2 Data

### A. Data Requirements

The sampling frame for the data is **HCFA’s** ‘Denominator Filer,’ which includes basic entitlement information for all Medicare beneficiaries, including those who: (1) are enrolled in **HMOs** (TEFRA risk contracts); (2) who elect not to purchase Part B benefits; and/or (3) who

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<sup>1</sup>The study period may be changed for two reasons: (1) costs associated with large scale data processing, and (2) data availability/quality for claims submitted prior to 1989. The data set would still be a panel data set because the data on individuals would span multiple years, but the ability to measure prior use and ever use would be severely limited.

<sup>\*\*</sup>Services\* are line items from Part B claims and generally represent separate procedures performed on a patient during a health care **visit**. Each line item has a HCPCS code assigned to it. The HCPCS code describes an identifiable portion of the medical encounter that is separately reimbursable. HCPCS is the abbreviation for ‘Health Care Financing Administration Common Procedure Coding System.’ HCPCS is used by the Medicare and Medicaid programs for claims processing. HCPCS describes physician and non-physician services and supplies. HCPCS includes all CPT-4 codes promulgated by the American Medical Association (AMA) supplemented with national and local alpha-numeric codes where necessary.

do not use any Part B **benefits** in a given year. All beneficiaries during calendar years 1986 through 1994 ("study period") whose current account (HIC) numbers end in 05, 20, 45, 70, or 95, would be selected for inclusion in a 5 percent sample of all **beneficiaries**.<sup>3</sup> These are the same numbers used to select beneficiaries for inclusion in the annual National Claims History (NCH) 5 Percent Plus data files, which includes Part A and Part B claims since 1991, and the 5 Percent MEDPAR and BMAD files, which include Part A and Part B claims, respectively, in earlier **years**.<sup>4</sup> The data set will be completed by matching the Denominator File 5 percent sample to the claims records and to records in both the Health Insurance Skeleton Eligibility Write-off (**HISKEW**) files, and the Social Security Administration's Master Beneficiary Record (MBR); the latter two files include important demographic and entitlement **information**.<sup>5</sup> The resulting data set will include claims and demographic information on five percent of all Medicare beneficiaries for the study period. We also recommend matching Pennsylvania's PACE data to HCFA claims data to facilitate analyses of psychotropic drug utilization. Finally, we recommend selecting a sample of **SSDI** beneficiaries from the MBR who are disabled due to mental illness, but who were either ineligible for Medicare or, despite being eligible for Medicare, did not receive services under the Medicare program that year.

All Part A and Part B claims made on behalf of each beneficiary who is selected for the database must be included. The data will be used to analyze changes over time in the utilization of both mental health services and general medical services by Medicare beneficiaries. Data should be collected for every year of the study period to facilitate: **(1)** analyses of beneficiaries who received mental health services in multiple years ("prior mental

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<sup>3</sup>It is our understanding that a "5% Plus" Denominator File already exists at HCFA and includes beneficiaries with these HIC numbers as well as all beneficiaries whose reason for entitlement is end stage renal disease (ESRD). We have been informed by Kathy Weiss that about one percent of HIC numbers change every year, mostly for women. Since 1990 or 1992, HCFA has continued to include these individuals in the 5 percent sample, but prior to that they did not do so, and they can not do so retroactively because carriers originally identified the sample members before processing their data. Another problem is that before 1991 about 5 percent of all Part B outpatient clinic bills were "batched", including services performed over a 15 to 30 day period, and it may not be possible to match procedures with providers and/or diagnoses.

<sup>4</sup>The "Plus" refers to **endstage** renal disease (ESRD) patients, who are included in the NCH 5 percent Plus file, but would not be included in the data set for this study unless their HIC number happens to be included.

<sup>5</sup>Data in the Denominator File may be a complete substitute for the **HISKEW** data and, therefore, it may not be necessary to match the claims data to the **HISKEW** file.

health care”); (2) analyses of beneficiaries who received mental health services during any year of the study period (“ever users”); and (3) analyses that adjust changes in utilization measures for changes in characteristics of the Medicare **population**.<sup>6</sup> The required data elements and a brief description of the claims data appear in Section 4.6.

The study period will include claims submitted prior to the Part B mental health policy changes as well as claims submitted after the final implementation of policy changes. The relevant Part B mental health policy changes were phased-in from 1967 through 1991. We selected one year prior to the first implementation through three years subsequent to the final implementation as an appropriate study period. One prior year was selected to enable the evaluators to analyze mental health utilization just prior to the first policy changes. This prior year data will enhance the tracking study by providing a base from which to analyze changes caused by the policy **expansions**.<sup>7</sup> Three subsequent years were selected because lags are expected to occur between the implementation of benefit changes and beneficiary/provider reaction to the policy changes. Therefore, it is important to include several subsequent “lag” years following final implementation of the policy changes.

As mentioned above, the proposed method for selecting the sample will result in a panel data set. Data on all selected beneficiaries will be available for all study years in which the beneficiary was eligible for Part B participation. Of course, claims data will only be available for years in which the selected beneficiary actually used covered services. Data on eligibility in other years is necessary to determine why an individual had no claims.

While the data set will be a panel data set, the analysis will examine annual utilization and expenditures. Each year’s claims will be representative of all claims submitted in that year. The panel feature of the data **will** be used primarily to control for changes in the characteristics of the Medicare population. There will also be limited analyses **in which prior**

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‘Note that “prior mental health care” only includes mental health care received prior to the study year in question for which a Medicare claim was filed. Additionally, because the tracking study only includes data from 1986-1994, mental health care received before 1986 will not be identified. “Prior mental health care”, then, is constrained to services received after 1985. **Similarly, “ever users” are only those beneficiaries who received mental health care during a study year.**

<sup>7</sup>**We** would prefer that the study period be extended to include data from 1984 and 1985. This would provide a more solid base of pre-policy change trend data as well as enhance the analysis of prior users of mental health services. As indicated in footnote 1, however, the study period may begin later, rather than earlier, because of cost and/or data availability restrictions.



use of Medicare mental health benefits will be examined. Future research using the data set may examine episodes of care, and the panel feature will facilitate analysis of episodes that span two or more years.\*

Medicare statistics indicate that 2.25 percent of Part B enrollees received mental health services in 1988. These estimates are based on mental health claims filed under the Part **B** program, as tabulated from **HCFA's** "Inquiry File," which was developed to monitor mental health services to determine whether a beneficiary exceeded the former dollar limits on coverage? There were approximately 31 million Part B enrollees in 1988, and 707,923 had at least one Part B mental health claim. These estimates suggest that there will be about 35,000 beneficiaries (5% of 707,923) in the annual 5% samples with Part B mental health claims; the total number of sample beneficiaries with at least one Part B mental health claim over the study period should be on the order of one of three million. We do not know the proportion of mental health claims that are filed by disabled versus aged beneficiaries. Haber and McCall's (1989) analysis of Medicare beneficiaries in the Clinical Social Workers Demonstration indicates that beneficiaries who file Part B mental health claims in Southern California are roughly equally divided between the disabled and the aged (see Table 1 in Haber and McCall).

## **B. Limitations of the Study Imposed by the Data**

There are several limitations of the study imposed by the general structure of the claims data. The following Limitations have been identified.

### **1. Changes in the Characteristics of the Medicare Population**

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'Claims data for beneficiaries who join an HMO or TEFRA-risk plan do not exist because of the nature of such plans. Beneficiaries participating in an HMO or TEFRA-risk plan face very different utilization incentives than other Medicare beneficiaries and Medicare's payment system for services provided to these beneficiaries is very different than the payment methodology used for other beneficiaries. Nevertheless, data should be collected for these beneficiaries for every year of the tracking study. Annual **HMO/TEFRA-risk** participation can then be identified using **HCFA's** Denominator File and participating beneficiaries can be excluded from the analysis for relevant study years.

<sup>9</sup>**The** numbers in this paragraph are based on distributions reported in an internal HCFA memorandum from Robert Goldrick, Acting Director of the Office of Health Program Systems under the Bureau of Data Management and Strategy at HCFA, dated September 28, 1989. The **memo was sent to the Director of the Office of Legislation and Policy at HCFA.**

For aggregate trend analyses, the confounding effect of changes in beneficiary characteristics over time must be offset by adjusting the data to reflect changes in the beneficiary profile (e.g. the age/sex/race/disability mix). Such adjustments **would** allow comparisons to be made over time free from distortions caused by changes in the demographic profile of the Medicare population. The adjusted data will more accurately measure changes caused by the Medicare mental health benefit itself. See Section 4.5 below for an explanation of alternative methods for controlling for demographic changes.

## **2. Changes in Macro Factors**

Even after adjusting aggregate data for changes in characteristics of the Medicare population, the data will still reflect both the effects of the policy changes and the effects of other “macro” factors that might affect the utilization decisions of all Medicare beneficiaries. These include, but are not limited to: 1) a decline in the stigma associated with mental illness; 2) changes in mental health benefits under Medi-Gap and other private insurance policies; 3) changes in Medicaid eligibility, coverage, and reimbursement rules; 4) changes in Medicare reimbursement practices, including the introduction of Diagnosis Related Groups (**DRGs**) and the physician fee schedule; 5) changes in diagnosis and treatment as advances in psychiatric practices are realized; 6) introduction of the Prospective Payment System (PPS) for Part A hospital inpatient psychiatric services other than those in psychiatric hospitals or exempt psychiatric units of general hospitals, and for most nonpsychiatric inpatient services; and 7) changes in Medicare rules for determining allowed charges. The tracking study cannot directly control for these macro factors. For the most part, the best that can be done is to document these changes and compare changes in utilization and expenditures to the changes in these factors. State to state variation in some of the macro factors, such as Medicaid coverage and state requirements for mental health coverage in Medi-Gap insurance, may be of value in separating out these effects.

## **3. Separation of the Effects of Multiple Policy Changes**

Since multiple policy changes were implemented during the study period, with changes occurring simultaneously or within a short period of each other, it will be difficult to separate the effect of one policy change from another. Comparison of the timing of changes in expenditures and utilization to implementation dates of the Medicare mental health policy expansions may help, but our expectation is that for many evaluation questions it will only be possible, at best, to make definitive statements about the joint effects of the policy changes on utilization and expenditures.

#### 4. Identification of Mental Health Claims

It will be impossible to identify all claims that are for mental health services, particularly those provided by non-psychiatric physicians such as general/family practitioners. Mental health services provided by non-psychiatric physicians are sometimes coded as general office visits for a variety of reasons. These reasons include: 1) to avoid the stigma associated with mental illness; 2) because the primary purpose of the visit was unrelated to mental health; and 3) to reduce the copayment by having Medicare reimburse at the 80% rate applicable to **non-mental health care**, rather than at the 50% rate that applies to most outpatient mental health services.<sup>10</sup>

Information about psychotropic drug utilization has been used in other studies to infer that mental health services were provided when there is no other indication that they were. Unfortunately, prescription information is not included in Medicare claims data because Medicare coverage does not extend to drugs that can be self-administered. Additionally, physicians do not typically supply drugs, but only write prescriptions, and would not include the prescription on a Medicare claim even if Medicare did cover prescription drugs. Pharmacists also do not submit claims for Medicare reimbursement because Medicare benefits do not cover self-administered drugs. Consequently, information on psychotropic drug utilization is not included in Medicare claims data.

#### 5. Claims for Non-physician Providers

The analysis will be constrained by the fact that non-physician providers could not submit Medicare claims prior to the expansion in mental health coverage to their specialty because their services were not covered, unless they were incident to a physician's services in which case the physician (or facility such as a community health center or hospital) filed the claim. As a result, it will be difficult to determine whether non-physician professional services claims filed after coverage expansions are for services that: 1) would have been

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<sup>10</sup>See, Wells, Manning, Duan, Newhouse, and Ware, "Cost-Sharing and the Use of General Medical Physicians for Outpatient Mental Health Care", *Health Services Research* **22:1** (April 1987) p. 8.

provided even in the absence of the policy change; 2) would not have been provided; or 3) would have been provided either by a physician or incident to a physician's service.

## 6. Unfiled Claims

Some mental health services were never reported on a Medicare claim either because of oversight or because the former dollar limits had already been reached. Prior to the lifting of the annual limit on mental health care coverage, there was no incentive to file claims once the limit had been exceeded; some providers did, but others didn't.

## 7. Coding and Coding Practice Changes

Changes in procedure codes (HCPCS) and coding practices occurred during the study years.<sup>11</sup> HCPCS codes have changed substantially since 1986, although the changes have not been to the coding scheme as a whole, but to specific codes. HCFA began emphasizing uniformity across carriers in coding practices in the late 1980s and has pushed to eliminate many of the carrier-specific and HCFA-specific codes in favor of CPT-4 codes. Also, a substantial increase in evaluation and management ("visit codes") was implemented on January 1, 1992 for the Medicare physician fee schedule, which requires more detailed information on length of visit than was required prior to the physician fee schedule. The CPT-4 codes, which already make up the bulk of HCPCS services, are promulgated by the AMA and have been fairly stable over time.

It would be desirable to use ICD-9-CM diagnosis codes to help identify mental health services and to satisfy some of the analyses. Unfortunately, HCFA did not require physicians to report diagnosis codes until 1991, although claims forms included a diagnosis code field. Furthermore, as mental health practice patterns have evolved it is likely that the associated diagnoses have also evolved. Hence, we do not recommend relying on the diagnosis data in the evaluation.

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<sup>11</sup> See footnote 1 for an explanation of HCPCS. Diagnosis codes are from the International Classification of Diseases 9th Revision Clinical Modification 3rd Edition (ICD-9-CM).

## 8. Lack of Secondary **Payor** Information

Medicare claims data do not indicate whether the beneficiary has secondary **payor** coverage such as Medicaid or Medi-Gap. Secondary **payor** coverage is expected to increase the utilization of all health care services because it reduces out-of-pocket expenses for the beneficiary. Most Medi-Gap policies do not offer extra mental health coverage, but all cover the coinsurance amount (and sometimes the deductible) for Medicare allowed mental health services. Consequently, before the annual limits on outpatient mental health coverage were eliminated, Medi-Gap would not have covered services provided beyond the annual limit because Medicare would not have covered those services. Nevertheless, since Medi-Gap covers coinsurance amounts, it greatly reduces beneficiary out-of-pocket expenditures for Medicare allowed services.

Medicaid coverage can be imputed for beneficiaries using data from the MBR, the **HISKEW** file or the Denominator file. The **HISKEW** file indicates what party is paying the beneficiary's Part B premium: (1) the beneficiary, (2) public assistance, (3) private third party, or (4) civil service. The Denominator file indicates whether a state is paying for Part A premiums, Part B premiums, or both. The MBR includes more detailed information on secondary **payor** coverage and would be the preferred source of coverage information for **SSDI** beneficiaries.

There are two broad groups of Medicare-Medicaid covered beneficiaries, and their Medicaid coverage differs substantially. These groups, which are discussed in detail in Chapter 2, are "dual eligibles" and "**QMBs**". Dual eligibles receive full Medicaid coverage. For Qualified Medicare Beneficiaries (**QMBs**), states must pay Medicare Part A and Part B premiums, deductibles, and coinsurance for Medicare, but do not provide other coverage under the Medicaid program. Additionally, states have the option of extending full Medicaid coverage ("dual eligibility") to a subset of **QMBs**: Medicare beneficiaries whose incomes do not exceed a state-established maximum that cannot be set higher than 100 percent of the Federal poverty level.

Dual eligibles are of particular interest to the tracking study. To the extent that State Medicaid programs offer outpatient mental health coverage that is more generous than Medicare's, these beneficiaries have strong incentives to utilize mental health care. These incentives would have been most significant before Medicare eliminated the annual dollar limit. Medicaid coverage for **QMBs**, on the other hand, is limited to the Medicare coinsurance, deductibles, and premiums. These beneficiaries have more of an incentive to use mental

health care than Medicare beneficiaries without any Medicaid coverage, but less than those with full Medicaid coverage.

Lack of information on secondary **payor** coverage would make it more difficult to quantify changes in mental health care utilization caused by Part B policy expansions because beneficiaries with secondary coverage are expected to react differently to Medicare benefit expansions than other beneficiaries, for two reasons. First, the new Medicare benefits may not represent new insurance coverage for beneficiaries with secondary coverage and, therefore, may not provide an incentive to use more services. Second, the fact that most secondary insurance covers coinsurance amounts means that “high” users of mental health services, who are most likely to benefit from the removal of the annual limit, experienced a reduction in marginal out-of-pocket costs from 100 percent of charges to zero percent, rather than the 50 percent reduction experienced by those high users who do not have secondary coverage. This effect may provide a strong incentive for high users who have secondary coverage to increase utilization more than other beneficiaries. Since these two effects of secondary insurance work in opposite directions, it is hard to predict what the average effect will be.

## **9. Introduction of the Medicare Physician Fee Schedule**

HCFA began phasing-in the Medicare physician fee schedule in January 1992. The fee schedule is expected to reduce payments per service to psychiatrists by 2 percent in 1992 compared to the customary, prevailing, and reasonable (CPR) payment system in effect prior to 1992. By 1996 when the fee schedule is fully phased-in, however, payments to psychiatrists per service are expected to be 3 percent higher than under the old CPR **system**.<sup>12</sup> The introduction of the physician fee schedule substantially changed Medicare's physician reimbursement system, including allowed amounts for covered services. These changes are expected to alter both the supply and demand for physician services. The incentives associated with the fee schedule will likely change utilization and expenditures for mental health services independent of the liberalization of outpatient mental health service coverage. These changes will affect both physician and nonphysician providers of mental health services.

Therapeutic services provided by clinical psychologists are currently paid under a special fee schedule that was initially established at 80 percent of psychiatrists' fees.

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<sup>12</sup>Federal Reaister, vol. 56, no. 227, November 25, 1991, p. 59618.

Therapeutic services provided by clinical psychologists will not be paid under the physician fee schedule. HCFA is currently developing a separate rule for revising payments for therapeutic services provided by clinical psychologists. The payment amount for diagnostic testing performed by psychologists will be paid under the physician fee schedule beginning in 1992. The payment amount for psychological testing will be the same whether the service is furnished by a psychologist or by a physician. Payments for services provided by nurse practitioners in rural areas are limited to 75 percent of the physician fee schedule amount for services furnished in a hospital and 85 percent of the fee schedule amount in all other settings. Therapeutic services provided by clinical social workers are limited to 75 percent of the amount paid to clinical **psychologists**.<sup>13</sup>

#### 10. **Changes in Medicare Rules for the Disabled**

Two changes in rules governing Medicare benefits for the disabled occurred during the study period and may have had an important impact on use of Medicare benefits by the **disabled**:<sup>14</sup>

- OBRA 1987 made Medicare a secondary **payor** in situations where **SSDI** beneficiaries with Medicare entitlement have alternative, insurance coverage.
- **OBRA** 1989 established a “buy-in” arrangement for **SSDI** beneficiaries who leave **SSDI** because they return to work.

The first of these two changes is probably a more serious problem for the evaluation than the second since the number of **SSDI** buy-ins is evidently **small**.<sup>15</sup> The HCFA data do not permit analysis of these problems since they include little information about other insurers and do not identify Medicare buy-ins. Matching of HCFA data to **SSA's** Master Beneficiary Record would add information on other payors and eligibility that would be of great use in determining the effect of these changes.

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<sup>13</sup>Federal Register, vol. 56, no. 227, November 25, 1991, pp. 59507 & 59519.

<sup>14</sup>The information in this paragraph is based on Bye et al (1991).

<sup>15</sup>This is based on a conversation with Gerald Riley at HCFA.

### 4.3 Illustration of Proposed Evaluation Methodology

The proposed approaches to analyzing individual analysis topics are similar in many respects and are shaped primarily by the nature of the data that would be used for the tracking study. The following illustration describes the approach we propose to follow for analyzing the analysis topic: “What specialties deliver outpatient mental health services to Medicare beneficiaries and has the distribution of services and expenditures across specialties changed since the expansion of outpatient mental health benefits?” Throughout the illustration, those aspects of the methodology that are applicable to all analysis topics will be discussed. These common features will not be repeated in Section 4.4, where each individual analysis topic is outlined; instead, only the unique aspects of the analytic approach for each question are described in Section 4.4.

#### A. Issues Unique to the Illustration

The goal of analyzing the illustrative question is to identify any changes in the distribution of services and Medicare expenditures across specialties that have occurred since the expansion of Medicare coverage for outpatient mental health **care**.<sup>16</sup> Possible trends that would be identified by this analysis include: (1) an increase in the proportion of Medicare beneficiaries receiving mental health care, (2) an increase in the number of mental health services among beneficiaries who receive mental health services, (3) substitution from psychiatrists and other physician providers to non-physician providers, (4) decreases in Medicare expenditures per service, and (5) decreases in submitted charges per service. By analyzing claims data as suggested below, inferences can be drawn and the evaluation question at least partially answered.

Profiles of mental health professional providers can be developed from claims data using information on provider specialty. Changes over the study period in the distribution of services, charges, and Medicare expenditures by specialty can be calculated. Similarly, changes in the number of mental health **services, charges,** and Medicare expenditures per beneficiary can be analyzed by specialty to determine whether expansion of the mental health

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<sup>16</sup>**Multiple** services can be received during one visit. The tracking study will analyze services so that relative importance of a specialty, or place of service, etc. compared to other specialties, places of service, etc., in providing mental health care to Medicare beneficiaries will not be obscured. For example, if visits were tabulated instead of services, specialties that tend to provide more than one service/intervention per visit would be underrepresented in the sense that their relative importance in providing services to beneficiaries would be understated.



benefit altered the number of mental health services per beneficiary, as well as associated charges, and Medicare expenditures across specialties. Finally, changes in charges and Medicare expenditures per mental health service can be calculated by specialty to determine whether mental health coverage expansions influenced charges and expenditures associated with mental health services.

As discussed in Section **4.2.B**, analysis of this analysis topic will be constrained by data limitations particularly those related to unfilled claims and non-covered providers prior to the expansion in mental health coverage. Specifically, some mental health services were probably never reported on a Medicare claim either because they were provided by **non-**covered professionals, the annual limit had already been reached, or they were provided incident to and billed by a physician. Therefore, the evaluators will not know whether particular claims are for services that: (1) would have been provided even in the absence of the policy change; (2) would not have been provided; or (3) would have been provided either by a physician or incident to a physician's service.

#### **B. Methodological Issues Common to All Analyses**

The proposed approach to analyzing all analysis questions focuses on beneficiaries who received Part B outpatient mental health services and the charges and Medicare expenditures for those **services**.<sup>17</sup> Because expansions in covered providers began in late 1987 (following a 1986 HCFA manual issuance) and extended through the end of 1991, data from 1986 through 1994 would be analyzed for each analysis topic.

Mental health care claims will be identified using the criteria outlined below (see Section 4.6 for data definitions). Note that the identification of mental health services will be

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<sup>17</sup>**Part B** outpatient mental health services" includes only those psychiatric services subject to the former annual limits and the 50 percent copayment. Therefore, professional services provided to hospital inpatients are excluded because they were never subject to the Part B psychiatric **services** limitations including the 50 percent copayment. Part B mental health services provided to beneficiaries residing in other institutional settings (e.g. **SNFs** and hospices) are covered by the limitations, and are included in the tabulations.

constrained by data limitations (see Section 4.2.B). Those claims with any of the following characteristics will be flagged as mental health care claims:<sup>18</sup>

- a. mental health **ICD-9-CM** diagnosis code
- b. provider specialty indicates mental health professional
- c. mental health HCPCS or **ICD-9-CM** procedure code
- d. type of service indicates mental health care
- e. place of service indicates mental health provider
- f. hospital outpatient revenue center codes indicate psychiatric services

Three different analyses would be performed for each of the analysis topics: (1) “aggregate,” (2) “stratified,” and (3) “adjusted aggregate.” In the aggregate analysis, the fact that beneficiary characteristics (such as the proportion of Medicare beneficiaries who are disabled) have changed over the period would be ignored, and changes in aggregate utilization would be examined. In the stratified analysis, utilization changes for important subgroups of the Medicare population would be analyzed. The subgroups would include classifications by: age, sex, race, entitlement status (aged, disabled, or ESRD), urban/rural location, prior mental health care, ever users, serious mental illness (indicates whether the beneficiary has a serious mental illness), Medicaid coverage (identifies Qualified Medicare Beneficiaries and dual eligibles),<sup>19</sup> and primary **payor**. In the adjusted aggregate analysis,

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<sup>18</sup>**This** definition of mental health service is consistent with definitions found in the mental health care literature. The tracking study definition is more inclusive, however, because place of service and revenue center codes are also used to identify mental health claims if they indicate that the service is psychiatric; for example, if place of service indicates mental health center, or revenue center code indicates psychiatric group therapy. See: Wells, **Keeler** and Manning, “Patterns of Outpatient Mental Health Care over Time: Some Implications for Estimates of Demand for Benefit Design”, *Health Services Research* **24:6** (February 1990) pp. 776-777; and Wells, Manning, Duan, **Newhouse** and Ware, “Cost-Sharing and the Use of General Medical Physicians for Outpatient Mental Health Care”, *Health Services Research* **22:1** (April 1987) p. 5.

<sup>19</sup> “States must provide complete Medicaid coverage to all persons receiving Supplemental Security Income (SSI) and certain former recipients of SSI. These persons are “dual-eligibles” if they are also eligible for Medicare. Furthermore, States must pay Medicare **Part A** and Part B premiums, deductibles, and coinsurance for Medicare beneficiaries who have income below 100 percent of poverty and whose resources (assets) do not exceed 200 percent of the allowable amount under SSI. These persons are “**QMBs**”. Effective January 1, 1993, States must pay Part B premiums (but are not required to pay anything else such as deductibles), for Medicare beneficiaries who would be **QMBs** except that their incomes are between 100 and 110 percent of poverty. The limit rises to 120 percent on January 1, 1995. Additionally, States have the option of extending full Medicaid coverage to Medicare beneficiaries whose incomes do not exceed a State-established standard that cannot be set higher than 100 percent of the Federal poverty level. Finally, States must pay Part A premiums for qualified disabled and working

changes in aggregate **utilization** would be adjusted for changes in Medicare population characteristics using the “panel data” method, discussed in Section 4.5. Adjusting for changes in population characteristics that independently affect mental health care utilization holds constant (“controls for”) these influences, and those changes attributable to expansions in benefit coverage are more precisely isolated from changes caused by demographic shifts in the Medicare population.

### C. Application of Methodology to the Illustration

For the aggregate analysis of the illustrative question, the number of beneficiaries who received at least one Part B outpatient mental health service (“outpatient” only excludes professional services reimbursed under Part B for hospital inpatients; see footnote 9) would be calculated for each study year. Then, the services received by beneficiaries who received outpatient mental health services during the year would be classified by specialty, and the distribution of services, charges, and Medicare expenditures by specialty would be tabulated. Next, the average number of mental health services per beneficiary, per beneficiary charges, and per beneficiary Medicare expenditures would be calculated by provider specialty for those beneficiaries who received outpatient mental health **services** during the year. Finally, charges and Medicare expenditures per mental health service would be calculated by specialty.

The results of the aggregate analysis would be summarized in a single table. The shell for this table appears in Exhibit 4.3.1. Each column of the table corresponds to one study year. Footnotes indicate relevant policy changes that occurred during a particular **year**.<sup>20</sup> There are nine sets of rows in the table. Each set except the first contains eight individual rows: one for all providers, and one for each of seven specialties (psychiatrists,

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individuals (with incomes below 200 percent of poverty and resources that do not exceed 200 percent of the allowable amount under SSI) who formerly received Social Security Disability Income (SSDI) and Medicare benefits and, although no longer eligible for SSDI, are permitted to retain Medicare Part A coverage in return for paying the premium.

<sup>20</sup>**For** the purposes of the illustrative shell, we have used statutory dates in the footnotes. In the final tables, however, it may be appropriate to change some of these dates due to differences between statutory dates and actual implementation dates, as discussed in Chapter 2.

EXHIBIT 4.3.1  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY PROVIDER SPECIALTY

[illegible]

EXHIBIT 4.3.1  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE **EXPENDITURES** BY PROVIDER SPECIALTY

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Services</b> Per Mental Health Beneficiary psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Charges</b> Per Mental Health <b>Service</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Medicare</b> Expenditures Per Mental Health <b>Service</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									

Notes:

- 1) As of December 31, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.

- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for set-vices performed in rural areas.

non-psychiatrist physicians, **CPs**, other psychologists, **CSWs**, nurse practitioners, and all other providers).

Each set of rows in Exhibit 4.3.1 shows the distribution of various measures of utilization across provider specialties. The first set of rows presents the number of Medicare beneficiaries who received outpatient mental health services during the year; the second set of rows shows the total number of outpatient mental health services by specialty; the third set presents total charges for outpatient mental health services; the fourth set reports total Medicare expenditures for outpatient mental health care; the fifth set presents mental health services per beneficiary for those beneficiaries who received outpatient mental health services during the year; the sixth and seventh sets present per beneficiary charges and Medicare expenditures, respectively, for beneficiaries who received outpatient mental health services during the study year; and the eighth and ninth sets show charges and expenditures per Part B mental health service.

Two additional tables would then be developed from Exhibit 4.3.1 (see Exhibits 4.3.2 & 4.3.3). First, the number of services, charges, and expenditures by provider specialty would be converted to percentages so that changes in the proportion of total services, charges, and expenditures for different specialties could be easily identified. Second, the annual numbers would be converted to year-to-year changes so that the percentage change over time would be apparent.

The “stratified” analysis would repeat the aggregate analysis for subgroups of Medicare beneficiaries. Specifically, beneficiaries would be grouped by age, sex, race, entitlement status, urban/rural location, prior mental health care, ever users, serious mental illness, Medicaid coverage, and primary **payor**<sup>21</sup>. The purpose of stratifying the analysis for subgroups of beneficiaries is to ascertain whether the **Part B** policy changes disparately impacted identifiable groups of beneficiaries. For example, has utilization of mental health services improved more for rural beneficiaries than for urban beneficiaries? Are younger beneficiaries more likely to benefit from the liberalized reimbursement rules than are older beneficiaries? Have the seriously mentally ill disproportionately benefitted, and are beneficiaries who are not seriously mentally ill more likely to utilize mental health services following the benefit expansions? The results of the stratified analyses would be presented in

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<sup>21</sup>As explained in Section 4.2.B, the NCH data do not include information on secondary payer (e.g. Medicaid and Medigap). Medicare is the primary payer for most beneficiaries.

EXHIBIT 4.3.2  
AGGREGATE ANALYSIS  
PERCENT DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES, AND  
MEDICARE EXPENDITURES BY PROVIDER SPECIALTY

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
Percent of <b>Beneficiaries</b> with at Least One Outpatient Mental Health Service									
Percent of All Mental Health Services									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
Percent of All Mental Health Charges									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
Percent of All Medicare Mental Health Expenditures									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									

Notes:

- 1) As of December 21, 1987, **CPs** in rural health clinics were permitted to **render services** without physician supervision.
- 2) As of September 1, 1988, **CPs** were permitted to bill directly for services provided in community mental health centers.
- 3) **As** of January 1, 1989, **CPs** were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, **CPs** were permitted to bill directly for outpatient services in any setting.  
Additionally, **as** of September 1, 1990, **CSWs** were permitted to bill directly **for** outpatient services.

- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly **for** services performed in rural areas.

**EXHIBIT 4.3.3**  
**AGGREGATE ANALYSIS**  
**ANNUAL CHANGE IN DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES, AND**  
**MEDICARE EXPENDITURES BY PROVIDER SPECIALTY**

	1988-1987 <sup>1</sup>	1987-1988 <sup>1,2</sup>	1988-1989 <sup>2,3</sup>	1989-1990 <sup>3,4</sup>	1990-1991 <sup>4</sup>	1991-1992 <sup>5</sup>	1992-1993	1993-1994	1988-1994
Percent Change in Number of Beneficiaries with at Least One Outpatient Mental Health Service									
Percent <b>Change</b> in Number of Mental Health Services									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
Percent Change in Mental Health Charges									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
Percent Change in Medicare Mental Health Expenditures									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									

**Notes:**

1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.

2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.

3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.

4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.

Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.

5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.



**AGE GROUP 1 - Under 40**

[illegible]

**EXHIBIT 4.3.4**  
**STRATIFIED ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY PROVIDER SPECIALTY, AND BENEFICIARY GROUP**

STRATIFIED BY: AGE\*

**AGE GROUP 1 - Under 40**

	1986	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Medicare</b> Expenditures Per Mental Health Beneficiary psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Charges</b> Per Mental Health Service psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Medicare</b> Expenditures Per Mental Health Service psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									

**Notes:**

- 1) As of December 21, 1987, **CPs** in rural **health** clinics were permitted **to render services without physician** supervision.
- 2) As of September 1, 1988, **CPs** were permitted **to** bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, **CPs** were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, **CPs** were permitted **to** bill directly for outpatient services in any setting.  
 Additionally, **as** of September 1, 1990, **CSWs** were permitted to bill directly for outpatient services.
- 5) **As** of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

\* Exhibit 4.3.4 and all exhibits for other stratified analyses, will include separate tables for each subgroup (age, sex, race, entitlement status, urban/rural, **prior** mental health care, serious mental illness, Medicaid coverage, ever user, and primary payer) and for each stratum within each subgroup (e.g., male/female/unknown, urban/rural/unknown, etc.)

**EXHIBIT 4.3.5**  
**STRATIFIED ANALYSIS**  
 PERCENT DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES, AND  
 MEDICARE **EXPENDITURES** BY PROVIDER SPECIALTY, AND **BENEFICIARY** GROUP

STRATIFIED **BY:** AGE\*

**AGE GROUP 1 - Under 40**

	1996	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Percent of Beneficiaries with at Least One</b> Outpatient Mental Health <b>Service</b>									
<b>Percent of All Mental Health Services</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Percent of All Mental Health Charges</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Percent of All Medicare Mental Health Expenditures</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									

Notes:

- 1) As of December 31, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
 Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

\* Exhibit 4.3.5 and all exhibits for other stratified analyses, will include separate tables for each subgroup (age, sex, race, entitlement status, urban/rural, prior mental health care, serious mental illness, Medicaid coverage, ever user, and primary payer) and for each stratum within each subgroup (e.g., male/female/unknown, urban/rural/unknown, etc.)

**EXHIBIT 4.3.6**  
**STRATIFIED ANALYSIS**  
**ANNUAL CHANGE IN DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES, AND**  
**MEDICARE EXPENDITURES BY PROVIDER SPECIALTY, AND BENEFICIARY GROUP**

STRATIFIED By: AGE\*

AGE GROUP 1 - Under 40	1966-I 987 <sup>1</sup>	1967-I 988 <sup>1,2</sup>	1966-I 989 <sup>2,3</sup>	1969-I 990 <sup>3,4</sup>	1990-I 991 <sup>4,5</sup>	1991-I 992 <sup>5</sup>	1992-I 993	1993-I 994	1966-I 994
Percent Change in Number of Beneficiaries with at Least One Outpatient Mental Health Service									
Percent Change in Number of Mental Health Services									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
Percent Change in Mental Health Charges									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
Percent Change in Medicare Mental Health Expenditures									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									

Notes:

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
 Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

\* Exhibit 4.3.6 and all exhibits for other stratified analyses, will include separate tables for each subgroup (age, sex, race, entitlement status, urban/rural, prior mental health care, serious mental illness, Medicaid coverage, ever user, and primary payer) and for each stratum within each subgroup (e.g., male/female/unknown, urban/rural/unknown, etc.)

**EXHIBIT 4.3.7**  
**ADJUSTED AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES. CHARGES AND**  
**MEDICARE EXPENDITURES BY PROVIDER SPECIALTY**

[illegible]

**EXHIBIT 4.3.7**  
**ADJUSTED AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY PROVIDER SPECIALTY**

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
Medicare Expenditures Per Mental Health Beneficiary									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
Charges Per Mental Health Service									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
Medicare Expenditures Per Mental Health Service									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									

Notes:

1) As of December 31, 1987, CPs in rural health clinics were permitted to render services without physician supervision.

2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.

3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.

4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.

Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.

5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

**EXHIBIT 43.8**  
**ADJUSTED AGGREGATE ANALYSIS**  
**PERCENT DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES, AND**  
**MEDICARE EXPENDITURES BY PROVIDER SPECIALTY**

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Percent of Beneficiaries with at Least One Outpatient Mental Health Service</b>									
<b>Percent of All Mental Health Services</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Percent of All Mental Health Charges</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Percent of All Medicare Mental Health Expenditures</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									

Notes:

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.

- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

EXHIBIT 4.3.9  
ADJUSTED AGGREGATE ANALYSIS  
ANNUAL CHANGE IN DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES, AND  
MEDICARE **EXPENDITURES** BY PROVIDER SPECIALTY

	1988-I 987 <sup>1</sup>	1987-1988 <sup>1,2</sup>	1988-I 989 <sup>2,3</sup>	1989-I 990 <sup>3,4</sup>	1990-I 991 <sup>4</sup>	1991-1992 <sup>5</sup>	1992-I 993	1993-I 994	1988-I 994
ercent Change in Number of Beneficiaries with at Least One Outpatient Mental Health Service									
ercent Change in Number of Mental Health Services psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioner <sup>5</sup> all other provider <sup>5</sup>									
ercent Change in Mental Health Charges psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
ercent Change in Medicare Mental Health Expenditures psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioner <sup>5</sup> all other providers									

**Nob:**

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.

- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.



**EXHIBIT 4.310**[illegible]

**EXHIBIT 4.3.10**  
**PERCENTAGE DIFFERENCE BETWEEN ADJUSTED AND UNADJUSTED ANALYSES FOR THE**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY PROVIDER SPECIALTY**

	1986	1967 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Medicare Expenditures Per Mental Health Beneficiary</b>									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
<b>Charges Per Mental Health Service</b>									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
<b>Medicare Expenditures Per Mental Health Service</b>									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									

**Notes:**

1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.

2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.

3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.

4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.

Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.

5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

**EXHIBIT 4.3.11**

PERCENTAGE DIFFERENCE BETWEEN ADJUSTED AND UNADJUSTED ANALYSES FOR THE  
PERCENT DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES, AND  
MEDICARE **EXPENDITURES** BY PROVIDER **SPECIALTY**

	1966	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Percent</b> of Beneficiaries with at Least One Outpatient Mental Health Service									
<b>Percent</b> of All Mental Health Services									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
<b>Percent</b> of All Mental Health Charges									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
<b>Percent</b> of All Medicare Mental Health Expenditures									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									

Notes:

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.

- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

EXHIBIT 4.3.12  
PERCENTAGE DIFFERENCE BETWEEN ADJUSTED AND UNADJUSTED ANALYSES FOR THE  
ANNUAL CHANGE IN DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES, AND  
MEDICARE **EXPENDITURES** BY PROVIDER SPECIALTY

	1986-1987 <sup>1</sup>	1987-1988 <sup>1,2</sup>	1988-1989 <sup>2,3</sup>	1989-1990 <sup>3,4</sup>	1990-1991 <sup>4</sup>	1991-1992 <sup>5</sup>	1992-1993	1993-1994	1986-1994
<b>Percent</b> Change in Number of <b>Beneficiaries</b> with at Least One Outpatient Mental Health Service									
Percent Change in Number of Mental Health Services									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
<b>Percent</b> Change in Mental Health Charges									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									
<b>Percent</b> Change in Medicare Mental Health Expenditures									
psychiatrists									
other physicians									
clinical psychologists									
other psychologists									
clinical social workers									
nurse practitioners									
all other providers									

Notes:

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.

- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

tables similar to Exhibits 4.3.1 - 4.3.3 except that each exhibit would have one page for each beneficiary group (see Exhibits 4.3.4 - 4.3.6).

The adjusted aggregate analysis would make adjustments to the aggregate analysis to account for changes in some characteristics of the Medicare population over time. This analysis would repeat the aggregate analysis holding beneficiary characteristics constant over the study years. In other words, the adjusted analysis would measure how the distribution of services, charges, and expenditures across provider specialty would have changed had the average characteristics of the Medicare population remained constant over the study years. Three alternate methods for making the adjustments are discussed in Section 4.5 below.

Once adjustments have been made, the adjusted results would be displayed in tables similar to those used for the unadjusted and stratified analyses (see Exhibit 4.3.7 - 4.3.9). The importance of the adjustments could be assessed by analyzing the differences between the unadjusted and adjusted estimates. The percentage difference between Exhibits 4.3.1 - 4.3.3 for the unadjusted analysis and Exhibits 4.3.7 - 4.3.9 for the adjusted analyses could be calculated and presented in tables similar to those in Exhibits 4.3.10 - 4.3.12.

Tables similar to Exhibits 4.3.1 - 4.3.12 would be produced for all analysis topics addressed by the tracking study. Although the exhibits would be tailored to the specific evaluation question, most will include aggregate, stratified, and adjusted aggregate estimates for each study year, as well as aggregate, stratified, and adjusted aggregate estimates presented in percentage terms for each study year, and annual percentage change estimates for the aggregate, stratified, and adjusted aggregate analyses. The only differences in the exhibits for most analysis topics would be the number and definition of the rows. For example, for the illustrative analysis topic, the rows are defined by provider specialty, whereas for the analysis topic that addresses the type of Medicare beneficiaries who receive mental health services, the rows would be defined by beneficiary characteristics such as age and sex. In addition to the exhibits, graphs would be produced for each analysis topic to display highlights of the analyses in an easily understandable fashion.

#### **4.4 Analysis Topics**

This section presents our proposed approach to answering the first four evaluation questions presented in Chapter 1. Following each evaluation question, the analysis topics that will be used to answer the evaluation question are identified and the data analysis proposed for each analysis topic is described. Sub-topics that are related to the particular

analysis topic are **also listed**. These sub-topics represent important issues that can be at least partially addressed by the analysis, but not all are critical to answering the evaluation questions.

Illustrative table shells are included following each evaluation question. To avoid repetition, only the equivalent of Exhibit 4.3.1 (the unadjusted aggregate table in the illustration) will be presented for most of the analysis topics because the only difference in exhibits across most analysis topics is in the number and definition of rows included in the exhibits; otherwise, neither the columns nor the basic content of the tables themselves change. For those analysis topics requiring special tables, multiple table shells are included as appropriate. Note also that the rural utilization “special study” question from the Scope of Work has been integrated into all analysis topics.

Finally, many of the analysis topics utilize the same data items and common data definitions. The data are defined in Section 4.6 below. Section 4.6 includes descriptions of data groupings that will be used throughout the tracking study. For example, data groupings include age groups, entitlement status, provider specialty, and diagnosis.

**1. Has there been an increase in the proportion of Medicare beneficiaries who receive outpatient mental health services?**

This evaluation question will be answered using information from the tables developed for the five analysis topics described below.

**A. Who receives outpatient mental health services under Medicare and have the characteristics of mental health care users changed over time?**

The following information from Part **B** outpatient mental health claims will be used: age, sex, race, urban/rural location, entitlement status, prior mental health care, serious mental illness, ever user, primary **payor**, Medicaid coverage, submitted charges, and Medicare expenditures.=

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<sup>22</sup>**As** discussed earlier, “outpatient mental health” includes only psychiatric services subject to the former annual limits and the 50 percent copayment. Professional services provided to hospital inpatients were never subject to these limits, even though they are reimbursed under Part B.

For this question the tracking study would estimate the number of Medicare beneficiaries receiving outpatient mental health services, total and per beneficiary charges and Medicare expenditures for mental health care, the number of outpatient mental health services provided to those beneficiaries who received outpatient mental health services during the study year, the total and per beneficiary charges and Medicare expenditures associated with those services, and the per service charge and Medicare expenditure for mental health services. These estimates would be calculated for all beneficiaries and for beneficiaries classified by: age, sex, race, urban/rural, primary **payor**, Medicaid coverage, serious mental illness, ever user, and prior mental health care (see Exhibit 4.4.1).

Since the aggregate and adjusted analyses will provide estimates by age, sex, race, urban/rural, entitlement status, Medicaid coverage, primary **payor**, serious mental illness, ever user, and prior mental health care there is no need to do stratified analyses unless adjusted analyses are done within strata, to hold constant other characteristics within each stratum. While this can be done, the value of doing it may not be worth the extra effort.

Another analysis would also help contribute substantially to the profile of beneficiaries who receive mental health care. Specifically, tabulating beneficiary characteristics by total annual Medicare expenditure for outpatient mental health care would help identify those beneficiaries who have relatively high or low utilization and/or relatively high or low expenditures for mental health care. The table would include estimates for each study year. The estimates would measure the percent of various groups of beneficiaries (defined by beneficiary characteristics) having Medicare expenditures within specified dollar ranges. These estimates would be broken down by the following beneficiary characteristics: age, sex, race, urban/rural, entitlement status, Medicaid coverage, primary **payor**, serious mental illness, ever user, and prior mental health care. The first dollar range would be zero and would include only those beneficiaries who did not receive any outpatient mental health care during the study year. The second dollar range would be \$1 - \$249, the third would be \$250 - \$499, etc. The table would show, for example, what percent of female beneficiaries have Medicare outpatient mental health expenditures in the \$0 category, the \$1 - \$249 range, the \$250 - \$499 range, etc. (see Exhibit 4.4.2).

The tabulations proposed for the analysis topic could also be used to answer the following important sub-questions:

EXHIBIT 4.4.1  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY BENEFICIARY CHARACTERISTICS

[illegible]



EXHIBIT 4.4.1  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY BENEFICIARY CHARACTERISTICS

[illegible]

1988	<b>1987<sup>1</sup></b>	<b>1988<sup>2</sup></b>	<b>1989<sup>3</sup></b>	<b>1990<sup>4</sup></b>	<b>1991<sup>5</sup></b>	1992
------	-------------------------	-------------------------	-------------------------	-------------------------	-------------------------	------

1988	<b>1987<sup>1</sup></b>	<b>1988<sup>2</sup></b>	<b>1989<sup>3</sup></b>	<b>1990<sup>4</sup></b>	<b>1991<sup>5</sup></b>	1992
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EXHIBIT 4.4.1  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE **EXPENDITURES** BY BENEFICIARY CHARACTERISTICS

[illegible]

**EXHIBIT 4.4.1**  
**AGGREGATE ANALYSIS**  
 DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
 MEDICARE **EXPENDITURES** BY BENEFICIARY CHARACTERISTICS

[illegible]

[illegible]

**EXHIBIT 4.4.1**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY BENEFICIARY CHARACTERISTICS**

[illegible]

2

[illegible]

EXHIBIT 4.4.1  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY BENEFICIARY CHARACTERISTICS

[illegible]



**EXHIBIT 4.4.1**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY BENEFICIARY CHARACTERISTICS**

[illegible]

**EXHIBIT 4.4.1**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY BENEFICIARY CHARACTERISTICS**

[illegible]

**EXHIBIT 4.4.1**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES. CHARGES AND**  
**MEDICARE EXPENDITURES BY BENEFICIARY CHARACTERISTICS**

	1986	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Locality:</b> urban rural unknown  <b>Primary Payer:</b> Medicare Veteran's Administration (VA) PHS or other federal agency (excluding VA) worker's compensation or other liability insurance group health plan through employer other payer									

Notes:

- 1) As of December 31, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners were permitted to bill directly for services performed in rural areas.

- Are younger beneficiaries more likely to use mental health care?
- Are disabled beneficiaries more likely to use mental health care?
- Are beneficiaries who received prior mental health care or who have a serious mental illness more likely to receive mental health services in a given year than are other beneficiaries?
- Do rural beneficiaries receive fewer mental health services than urban beneficiaries, indicating continued relative underutilization in rural areas?
- How is utilization related to Medicaid coverage?

One important question that this analysis will help inform is: How are future Medicare outlays likely to be influenced by the growing proportion of **SSDI** beneficiaries who are mentally ill and by the increasing numbers of elderly persons in the population? This question cannot be directly answered by the tracking study. Instead this issue is addressed in Chapter 8. Nevertheless, the description of mental health beneficiaries, particularly high users, will be an important addition to the analysis proposed in Chapter 8. Relative growth in those segments of the Medicare population that tend to utilize relatively more mental health services or are high users will have a greater impact on future Medicare outlays than growth in low user segments of the population.

**B. Who uses the partial hospitalization benefit, and how have utilization of and Medicare expenditures for partial hospitalization changed over time?**

The following information from outpatient mental health claims will be used: revenue codes, diagnosis codes, age, sex, race, urban/rural location, entitlement status, prior mental health care, serious mental illness, primary **payor**, ever user, Medicaid coverage, submitted charges, and Medicare expenditure.

The analysis for this question would focus on Medicare beneficiaries participating in partial hospitalization **programs**.<sup>23</sup> Medicare added an explicit partial hospitalization benefit in 1987 that covered services provided in a hospital outpatient department setting, and extended coverage to community mental health centers beginning October 1, 1991. Prior to 1987, carriers reimbursed for services provided to Medicare beneficiaries participating in partial

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<sup>23</sup>A new condition code on the HCFA UB-82 claim form indicates partial hospitalization services. This code was introduced in 1992 and, therefore, would not be available on claims prior to that time. Identification of partial hospitalization claims prior to 1992 will, therefore, be imprecise and comparisons across time will be difficult to make.

hospitalization programs used coverage criteria applied to outpatient mental health services in general. This coverage was, in effect, an informal partial hospitalization benefit.

Reimbursement, however, was subject to the discretion of the Medicare fiscal intermediaries and carriers, which caused a lack of uniformity in coverage. Nevertheless, partial hospitalization is not entirely a new benefit under Medicare because the services provided to participants were commonly reimbursed by Medicare if they would have been covered outside of a partial hospitalization setting.

The tracking study will be able to identify partial hospitalization services provided by hospital outpatient departments for which revenue center code or HCPCS code data indicate the likely provision of partial hospitalization services (see Section 4.6 below for a definition of partial hospitalization revenue center and HCPCS codes). This method of identifying partial hospitalization services will be imprecise before 1992 because it will miss some partial hospitalization and will identify some services that were not provided in a partial hospitalization program. From 1992 onward, a new condition code on the HCFA claims form indicates partial hospitalization services and will provide a direct method of identifying partial hospitalization services.

A demographic profile of partial hospitalization beneficiaries would be developed. The characteristics that would be included in the profile include: age, sex, race, urban/rural location, entitlement status, prior mental health care, ever user, serious mental illness, Medicaid coverage, primary **payor**, and diagnosis. This profile would be used to identify partial hospitalization users and to compare them to other Medicare beneficiaries receiving outpatient mental health care. Additionally, mental health services, total and per beneficiary charges and Medicare expenditures, and per service charges and Medicare expenditures would be compared for those beneficiaries participating in a partial hospitalization program during the year and those beneficiaries who received outpatient mental health care but did not participate in a partial hospitalization program (see Exhibit 4.4.3).

A separate analysis could be undertaken to address the hypothesis that the extension of coverage to partial hospitalization will induce hospitals to discharge inpatients quicker and refer them to a partial hospitalization program (perhaps operated by the same hospital) to reduce the length of stay and maximize profits for inpatient mental health care. Note that this hypothesis reflects the view that partial hospitalization services are supplementary to inpatient stays and, therefore, **do not** necessarily avert inpatient stays but may reduce their length. In other words, partial hospitalization is not a complete substitute for inpatient care. This effect is likely to be greatest for inpatient stays covered under the Prospective Payment System

(PPS) which provides stronger incentives to discharge patients quicker than does TEFRA cost-based reimbursement. inpatient stays in scatter beds and non-exempt psychiatric units of general acute care hospitals are reimbursed under the PPS system.” Approximately 20 percent of Medicare psychiatric inpatient stays are covered by PPS. The remaining 80 percent of psychiatric inpatient **stays** are covered under the TEFRA cost-based reimbursement rules. As suggested in the literature review, the strength of the incentive to discharge quicker is also likely to be related to the effectiveness of Medicare fiscal intermediary and carrier utilization review programs.

The database can be used to identify episodes of partial hospitalization care that were preceded by inpatient care, as well as calculating length of stay for the latter, and also to determine whether the inpatient stay was covered by PPS. Thus, at a minimum, distributions of partial hospitalization by prior inpatient acute care length of stay can be constructed for both PPS and TEFRA inpatient stays. We do not know whether it will be possible to obtain information about utilization review (see Exhibit 4.4.4).

A similar analysis could be undertaken to address the hypothesis that the extension of coverage to partial hospitalization will reduce the need for admission or transfer to **SNFs**, and reduce the length of stay in **SNFs**. We would determine whether mental health beneficiaries participating in partial hospitalization programs are less likely to enter a SNF than are other mental health beneficiaries and whether lengths of stay in **SNFs** are shorter for partial hospitalization participants than for other mental health beneficiaries (see Exhibit 4.4.5).

These tables will also be useful for addressing the following sub-questions:

- What mental disorders appear most amenable to partial hospitalization as evidenced by the distribution of partial hospitalization services across diagnosis codes?
- Is the utilization of partial hospitalization services fairly uniform across the U.S., or is it concentrated in urban **areas** or rural areas?

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<sup>24</sup>**Non-exempt** units’ are distinct part psychiatric units that have not been waived from PPS coverage. A general acute care hospital can apply to have its distinct part psychiatric unit exempted from PPS in which case, Medicare inpatient stays are reimbursed under the TEFRA cost-based reimbursement rules. Psychiatric hospitals were never included in PPS and have always been reimbursed under the TEFRA cost-based reimbursement rules.

**C. How, if, at all, has the utilization of psychotropic drugs changed over time?**

The following information from Part B outpatient mental health claims will be used: HCPCS procedure code, age, sex, race, urban/rural location, entitlement status, prior mental health care, serious mental illness, primary **payor**, ever user, Medicaid coverage, submitted charges, and Medicare expenditure.

This analysis topic cannot be thoroughly analyzed using HCFA claims data because self-administered drugs are not covered by the Medicare program. Consequently, claims data for drugs prescribed for mental health problems will not be available. This question can be partially answered, however, by studying the changes in HCPCS procedure codes Q0044 and MOO64 which indicate “brief office visits for the sole purpose of monitoring or changing drug prescriptions used in the treatment of mental psychoneurotic and personality disorders”; and HCPCS code 90862 which indicates “psychiatric pharmacologic management”. Analysis of these HCPCS codes will provide a limited understanding of changes in drug therapy utilization. The tables that would be developed for this analysis are illustrated in Exhibit 4.4.6.

Several sub-questions could also be addressed using the data developed for this analysis topic:

- Is pharmacologic management of mental disorders more common, relative to psychotherapy and other **interventions**, in rural areas where mental health specialists (and all specialists) are in short supply?
- Does utilization of psychotropic drugs vary by age of the beneficiary?

A supplementary analysis could also be conducted using state level drug utilization data. Specifically, we recommend using Pennsylvania’s PACE data, which includes information on drug utilization by participants in a state-wide prescription reimbursement program for lower-income elderly. Approximately 50 percent of the elderly in Pennsylvania are eligible to participate in the program and of those eligible, approximately 25 percent, participate in the program. This data can be used to identify changes in use of psychotropic medications by Medicare beneficiaries that may be attributable to the Medicare Part B policy changes. The PACE data is available from **the mid** 1980s onward and, therefore, is ideal for analyzing possible changes in prescribing patterns that coincided with expansions in the Medicare outpatient mental health benefit. Furthermore, PACE data can be matched to HCFA data, allowing construction of a more complete profile of mental health care utilization by

beneficiaries who take psychotropic medications. See Chapter 5 for additional details on the PACE data.

**D. Are utilization and changes in utilization of mental health benefits in an area related to the number of mental health specialists per capita?**

As discussed in Chapter 3, extension of coverage to allow independent billing by nonphysician specialists is likely to have the greatest effect on utilization in areas where such specialists are most abundant. The analysis discussed here is designed to determine whether, in fact, this happened.

Analysis of this topic requires data on the distribution of providers by specialty and geographic location. Medicare data on the supply of providers is limited in several respects. The Provider of Services (POS) file identifies institutional Medicare providers and includes information on institutional characteristics, but does not include information on individual practitioners. The claims data include physician identification numbers, but HCFA administrators have told us that these are unreliable because they are used inconsistently. Finally, even if Medicare data on providers that actually supply services to Medicare beneficiaries were of better quality, they would be inadequate for the analysis since we would like to know the number and types of providers that could offer services to Medicare patients, including both those who actually provide services and those who don't.

One approach to answering this question would be to use independent information on the density of providers in each beneficiary's area (county/city, state, or other unit, identified by zip code of the beneficiary). Provider density variables would then be added to the panel data, and distributions of utilization by provider density could be constructed for each year. A summary of available data on provider supply appears in Chapter 7 and our recommended approach to using these data is discussed.

Another approach would be to identify psychiatric Health Personnel Shortage Areas (HPSA), determine whether a particular beneficiary resided in a psychiatric HPSA, and compare utilization for HPSA and non-HPSA **beneficiaries**.<sup>25</sup> This analysis would be less precise than the approach described above because it assumes that all HPSAs have too few mental health specialists and that all non-HPSAs have an adequate supply of mental health

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<sup>25</sup>**Psychiatric** HPSAs measure the supply of psychiatrists and psychologists but not the supply of other providers of mental health services.



specialists. A particular HPSA, however, could have an inadequate supply of **non-psychoiatrist/non-psychologist** mental health providers but have an adequate supply of other providers such as clinical social workers.

Regardless of the approach finally selected, the tables that would be produced for this analysis topic are illustrated by Exhibit 4.4.7.

## 2. **Has there been an increase in intensity of outpatient mental health services?**

The tables produced for analysis topics 1 .A, **1.B**, and I.D (refer to evaluation question 1) will also be used to answer this evaluation question. Those tables will include information on intensity of service, which is the focus of this evaluation question. In addition, the following two analysis topics will also be used to address the intensity issue.

### A. **Has the mix of diagnoses associated with outpatient mental health services changed since the expansion of outpatient mental health benefits?**

The following information from Part B outpatient mental health claims will be used: diagnosis, age, sex, race, urban/rural location, entitlement status, prior mental health care, serious mental illness, primary **payor**, ever user, Medicaid coverage, submitted charges, and Medicare expenditure.

The analysis for this question will include estimates of outpatient mental health services, total and per beneficiary charges and Medicare expenditures, and per service charges and expenditures by diagnosis for those beneficiaries receiving outpatient mental health services during the study year. This analysis will be especially useful for determining whether outpatient utilization has changed more for certain diagnoses and whether a substitution toward outpatient treatment for more serious mental illnesses is increasingly likely to occur in an outpatient setting following the elimination of the annual dollar limit on outpatient **care**.<sup>26</sup>

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<sup>26</sup>**Users** of mental health specialists are more than twice as likely to be ever diagnosed with a serious mental illness, such as psychosis, as are patients who receive mental health care from a non-mental health specialist. **See:** Wells, Manning, Duan, Newhouse, and Ware, "Cost-Sharing and the Use of General Medical Physicians for Outpatient Mental Health Care", Health **Services Research** **22:1** (April 1987) p. 13.

**EXHIBIT 4.42**  
**ANNUAL MEDICARE EXPENDITURES FOR OUTPATIENT MENTAL HEALTH SERVICES**  
**BY ANNUAL EXPENDITURE AMOUNT AND BENEFICIARY CHARACTERISTICS**

[illegible]

## M H I B I T 4 . 4 2

[illegible]

**EXHIBIT 4.42**

[illegible]

**EXHIBIT 4.42**

[illegible]

EXHIBIT 4.42

ANNUAL MEDICARE EXPENDITURES FOR CM-PATIENT MENTAL HEALTH SERVICES  
BY ANNUAL EXPENDITURE AMOUNT AND BENEFICIARY **CHARACTERISTICS**

[illegible]

**EXHIBIT 4.42**  
**ANMJA MEDICARE EXPENDITURES FOR OUTPATIENT MENTAL HEALTH SERVICES**  
**BY ANNUAL EXPENDITURE AMOUNT AND BENEFICIARY CHARACTERISTICS**

[illegible]

**EXHIBIT 4.42**

[illegible]



EXHIBIT 4.4.3  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE **EXPENDITURES** FOR PARTIAL **HOSPITALIZATION** SERVICES

[illegible]

**EXHIBIT 4.4.2**  
ANNUAL MEDICARE **EXPENDITURES** FOR OUTPATIENT MENTAL HEALTH SERVICES  
BY ANNUAL EXPENDITURE AMOUNT AND BENEFICIARY CHARACTERISTICS

Annual Expenditure	Beneficiary Characteristics	1986	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
	ENTITLEMENT STATUS: % aged disabled but not ESRD % aged and neither disabled nor ESRD % disabled and neither aged nor ESRD % ESRD % unknown									

Notes:

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

**EXHIBIT 4.4.3**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES FOR PARTIAL HOSPITALIZATION SERVICES**

	1986	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
Diagnosis:									
organic mental disorders									
substance use disorders									
schizophrenic disorders									
paranoid and other non-organic psychotic disorders									
affective & personality disorders									
anxiety, somatoform and dissociative disorders									
adjustment disorders									
disorders usually first evident in infancy, childhood,									
or adolescence, excluding mental retardation									
mental retardation									
other ICD-O-CM identified mental disorders*									
history of mental disorder, psychosocial circumstances,									
convalescence, observation, other nonspecific									
suspected mental disorder (v codes)									
other diagnosis combined with a mental health:									
provider specialty, type of service, procedure code,									
place of service, or revenue center code indicative									
of mental health services									
depression									
<b>Total</b> Mental Health Charges									
<b>Total</b> Medicare Mental Health Expenditures									
<b>Services</b> Per Mental Health <b>Beneficiary</b>									
<b>Charges</b> Per Mental Health Beneficiary									
Medicare Expenditures Per Mental Health Beneficiary									
<b>Charges</b> Per Mental Health <b>Service</b>									
<b>Medicare</b> Expenditures Per Mental Health Services									

**Notes:**

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.
- Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

\* includes sexual deviations and disorders, physiological malfunction arising from mental factors, depressive disorder not elsewhere classified, and psychic factors associated with diseases classified elsewhere



EXHIBIT 4.4.3 (continued)  
AGGREGATE ANALYSIS

**DISTRIBUTION OF OUTPATIENT MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES FOR NON-PARTIAL HOSPITALIZATION SERVICES**

[illegible]



EXHIBIT 4.4.3 (continued)  
 AGGREGATE ANALYSIS  
 DISTRIBUTION OF OUTPATIENT MENTAL HEALTH SERVICES, CHARGES AND  
 MEDICARE **EXPENDITURES** FOR NON-PARTIAL **HOSPITALIZATION** SERVICES

	1988	1987 <sup>1</sup>	19882	1 989 <sup>3</sup>	19904	1991 <sup>5</sup>	1992	1993	1994
Diagnosis:									
organic mental disorders									
substance use disorders									
schizophrenic disorders									
paranoid and other non-organic psychotic disorders									
affective & personality disorders									
anxiety, somatoform and dissociative disorders									
adjustment disorders									
disorders usually first evident in infancy, childhood,									
or adolescence, excluding mental retardation									
mental retardation									
other ICD-O-CM identified mental disorders*									
history of mental disorder, psychosocial circumstances,									
convalescence, observation, other <i>nonspecific</i>									
suspected mental disorder (v codes)									
other diagnosis combined with a mental health:									
provider specialty, type of service, procedure code,									
place of service, or revenue center code <b>indicative</b>									
of mental health services									
depression									
<b>total</b> Mental Health Charges									
<b>total</b> Medicare Mental Health Expenditures									
<b>services</b> Per Mental Health Beneficiary									
<b>charges</b> Per Mental Health Beneficiary									
<b>Medicare Expenditures</b> Per Mental Health Beneficiary									
<b>charges</b> Per Mental Health Service									
<b>Medicare Expenditures</b> Per Mental Health <b>Services</b>									

**Notes:**

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
 Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners were permitted to bill directly for services performed in rural areas.

\* includes sexual deviations and disorders, physiological malfunction arising from mental factors, depressive disorder not **elsewhere** classified, and **psychic** factors associated with diseases classified **elsewhere**

# IMPACT OF **PARTIAL HOSPITALIZATION** ON ACUTE CARE **INPATIENT** LENGTH OF STAY

[illegible]



**EXHIBIT 4.4.4**  
**AGGREGATE ANALYSIS**

IMPACT OF PARTIAL HOSPITALIZATION ON ACUTE CARE INPATIENT LENGTH OF STAY

		1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Beneficiaries with Partial Hospitalization:</b> Prior TEFRA Inpatient Acute Care Length of Stay: 0 days 13 days 4-6 days 7-9 days 10 or more days average length of stay									
<b>Beneficiaries without Partial Hospitalization:</b> Prior TEFRA Inpatient Acute Care Length of Stay: 0 days 1-3 days 4-6 days 7-9 days 10 or more days average length of stay									

**Notes:**

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

**EXHIBIT 4.4.5**  
**AGGREGATE ANALYSIS**  
**IMPACT OF PARTIAL HOSPITALIZATION ON SUB-ACUTE CARE LENGTH OF STAY**

[illegible]

**EXHIBIT 4.4.6**  
**AGGREGATE ANALYSIS**

[illegible]

**EXHIBIT 4.4.5**  
**AGGREGATE ANALYSIS**  
**IMPACT OF PARTIAL HOSPITALIZATION ON SUBACUTE CARE LENGTH OF STAY**

		1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>1</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Beneficiaries with Partial Hospitalization:</b> Prior <b>TEFRA</b> Sub-acute Care Length of Stay: 0 days 1-3 days 4-6 days 7-g days 10 or more days average length of stay									
<b>Beneficiaries without Partial Hospitalization:</b> Prior <b>TEFRA</b> Sub-acute Care Length of Stay: 0 days 1-3 days 4-6 days 78 days 10 or more days average length of stay									

**Notes:**

- 1) **As** of December 21, 1987, **CPs** in rural health clinics **were** permitted to render services without physician supervision.
- 2) **As** of September 1, 1988, **CPs were** permitted to bill directly **for** services provided in community mental health centers.
- 3) **As** of January 1, 1989, **CPs** were permitted to bill for **services** provided to community mental health center patients off-site.
- 4) **As** of September 1, 1990, **CPs were** permitted to bill directly **for** outpatient services in any setting.  
Additionally, **as of September 1, 1990, CSWs were** permitted to bill directly for outpatient services.
- 5) **As** of January 1, 1991, Nurse Practitioners permitted to bill directly **for services** performed in rural areas.

EXHIBIT 4.4.6  
AGGREGATE ANALYSIS  
SERVICES, CHARGES, AND MEDICARE **EXPENDITURES** FOR PSYCHIATRIC PHARMACOLOGIC MANAGEMENT

	1966	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
Ever User: <b>yes</b> no									
Locality: urban rural unknown									
Primary Payer: <b>Medicare</b> <b>Veteran's Administration (VA)</b> <b>PHS or other federal agency (excluding VA)</b> <b>worker's compensation or other liability insurance</b> <b>group health plan through employer</b> <b>other payer</b>									
<b>Total</b> Charges for Psychiatric Pharmacologic Management									
<b>Medicare</b> Expenditures for Psychiatric Pharmacologic Management									
<b>Services</b> Per Beneficiary for Psychiatric Pharmacologic Management									
<b>Charges</b> Per Beneficiary for <b>Psychiatric</b> Pharmacologic Management									
<b>Medicare</b> Expenditures Per Beneficiary for Psychiatric Pharmacologic Management									
<b>Charges</b> Per Service for Psychiatric Pharmacologic Management									
<b>Medicare</b> Expenditures Per Service for Psychiatric Pharmacologic Management									

Notes:

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render **services** without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

## RELATIONSHIP BETWEEN PROVIDER SUPPLY AND UTILIZATION OF OUTPATIENT MENTAL HEALTH SERVICES BY PROVIDER SPECIALTY

[illegible]

**EXHIBIT 4.4.7**  
**AGGREGATE ANALYSIS**  
**RELATIONSHIP BETWEEN PROVIDER SUPPLY AND UTILIZATION OF**  
**OUTPATIENT MENTAL HEALTH SERVICES BY PROVIDER SPECIALTY**

[illegible]

**EXHIBIT 4.4.7**  
**AGGREGATE ANALYSIS**  
**RELATIONSHIP BETWEEN PROVIDER SUPPLY AND UTILIZATION OF**  
**OUTPATIENT MENTAL HEALTH SERVICES BY PROVIDER SPECIALTY**

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Charges</b> Per Mental Health Service									
Mental Health Specialists:									
< 25th percentile of provider supply									
25th-49th percentile of provider supply									
50th-74th percentile of provider supply									
75th percentile or over of provider supply									
Non-Mental Health Specialists:									
< 25th percentile of provider supply									
25th-49th percentile of provider supply									
50th-74th percentile of provider supply									
75th percentile or over of provider supply									
<b>Medicare</b> Expenditures Per Mental Health Service									
Mental Health Specialists:									
< 25th percentile of provider supply									
25th-49th percentile of provider supply									
50th-74th percentile of provider supply									
75th percentile or over of provider supply									
<b>Non-Mental Health Specialists:</b>									
< 25th percentile of provider supply									
25th-49th percentile of provider supply									
50th-74th percentile of provider supply									
75th percentile or over of provider supply									

**Notes:**

- 1) As of December 31, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
 Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.



The diagnosis groups that would be used **include:** organic mental disorders; substance use disorders; schizophrenic disorders; paranoid and other non-organic psychotic disorders; affective & personality disorders; anxiety, somatoform, and dissociative disorders; adjustment disorders; disorders usually first evident in infancy, childhood, or adolescence, excluding mental retardation; mental retardation; other **ICD-9-CM** identified mental disorders (i.e. sexual deviations and disorders, physiological malfunction arising from mental factors, depressive disorder not elsewhere classified, and psychic factors associated with diseases classified elsewhere such as ulcers, asthma, etc.); history of mental disorder, psychosocial circumstances, convalescence, observation, other nonspecific suspected mental disorder (these are all **ICD-9-CM "v codes"**); non-mental health diagnosis combined with a mental health provider specialty, type of service, procedure code, place of service, or revenue center code." In addition, because of its importance, depression will be included as a separate diagnosis group, although depression related disorders are all included in one of the first ten groups listed **above**.<sup>28</sup> (See Exhibit 4.4.8).

Analysis of trends in outpatient mental health diagnoses will be useful for answering the following sub-questions:

- Has the distribution of mental health services and expenditures changed across diagnoses since Part B coverage was expanded?
- What diagnoses appear to have been most affected by changes in Medicare payment policy?
- Do diagnoses tend to differ across identifiable groups of Medicare beneficiaries? For example, do beneficiaries in rural areas tend to be diagnosed with different disorders than urban beneficiaries? Are prior users more likely to be diagnosed with a severe mental illness than are other beneficiaries? How do diagnoses vary by age and disability status?

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<sup>27</sup>**The** purpose of identifying services which have non-mental health diagnoses but are combined with a mental health: provider specialty, procedure code, place of service, or revenue center code, is to include all mental health services in the analysis regardless of the presence or accuracy of diagnosis codes. Provider specialty, procedure codes, place of service, type of service, and revenue center codes are all independent indicators of whether mental health care was provided to the beneficiary.

<sup>28</sup>**Clinical** definitions of mental disorder diagnoses can be found in: American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*, Third Edition, Revised. Washington, DC, 1987.

- Which diagnoses are associated with relatively high utilization and expenditures, and how have utilization and expenditures associated with these diagnoses changed in relation to other diagnoses?

**B. Has the mix of, therapeutic interventions associated with outpatient mental health services changed since the expansion of outpatient mental health benefits?**

The following information from Part B outpatient mental health claims will be used: procedure codes, revenue codes for facility claims, age, sex, race, urban/rural location, entitlement status, prior mental health care, serious mental illness, primary **payor**, ever user, Medicaid coverage, submitted charges, and Medicare expenditure.

Analysis of this question will include estimates of the distributions of outpatient mental health services, total and per beneficiary charges and Medicare expenditures, and per service charges and Medicare expenditures by therapeutic intervention for those beneficiaries receiving outpatient mental health services during the study year. This analysis will be important for determining whether outpatient interventions have changed as a result of expanded outpatient mental health coverage. This analysis would be repeated three times to incorporate three different reporting methods for interventions: (1) HCPCS procedure codes, (2) revenue center codes for institutional claims, and (3) **ICD-9-CM** procedure codes for hospital and SNF institutional claims. All three reporting methods will not be included on every claim, but those claims that do not include a particular reporting method will be included in the catch-all category for that reporting method (e.g. “other HCPCS procedure code combined with either a mental health: provider specialty, type of service, diagnosis, **ICD-9-CM** procedure code, place of service, or psychiatric revenue center code”). Because HCPCS are a primary component of the reimbursement decision for mental health services provided by physicians, psychologists, clinical social workers, and nurse practitioners, claims submitted for services provided by these providers will include HCPCS codes. Revenue center codes and **ICD-9-CM** codes will appear on institutional claims only and will be especially useful for identifying partial hospitalization services.

The interventions that would be examined in the HCPCS code analysis include: psychiatric - clinical diagnostic or evaluative procedures; individual psychotherapy; group psychotherapy; psychiatric - narcosynthesis, medical psychoanalysis, electroconvulsive therapy; psychiatric - pharmacologic management; other psychiatric therapy; individual psychiatric therapy by CSW, psychiatric nurse, other non-physician provider; group psychiatric therapy by CSW, psychiatric nurse, other non-physician provider; other psychiatric services by

CSW, psychiatric nurse, other non-physician provider; brief office visit for the sole purpose of monitoring or changing drug prescriptions used in the treatment of mental psychoneurotic and personality disorders; psychological testing services; activity furnished in connection with partial hospitalization (e.g., music, dance, art, or play therapies that are not primarily recreational); outpatient evaluation and management combined with a mental health: provider specialty, type of service, diagnosis, **ICD-9-CM** procedure code, place of service, or revenue center- code; emergency room or outpatient critical care services combined with either a mental health: provider specialty, type of service, diagnosis, **ICD-9-CM** procedure, place of service, or revenue center code; services provided at nursing homes combined with either a mental health: provider specialty, type of service, diagnosis, **ICD-9-CM** procedure code; place of service, or psychiatric revenue center code; other HCPCS procedure code combined with either a mental health: provider specialty, type of service, diagnosis, ICD-O-CM procedure code, place of service, or psychiatric revenue center code.

The interventions that would be analyzed in the revenue center code analysis for facility claims include: general psychiatric treatments; electroshock treatment; milieu or play therapy; other psychiatric treatment; general psychiatric services; rehabilitation services; day care: night care; individual therapy; group or family therapy; biofeedback and testing services; other psychiatric services, and other revenue center code combined with a mental health: provider specialty, diagnosis, HCPCS code, **ICD-9-CM** procedure code, type of service, or place of service.

The interventions that would be examined in the **ICD-9-CM** procedure code analysis include: psychological evaluation and testing; psychiatric interview, consultation, and evaluation; psychiatric somatotherapy; individual psychotherapy; other psychotherapy and counseling; referral for psychologic rehabilitation; and other procedure combined with a mental health: provider specialty, type of service, HCPCS procedure code, diagnosis code, place of service, or psychiatric revenue center code.

Exhibit 4.4.9 illustrates the analytic tables that would be produced for this analysis topic. These tables will also be useful for addressing the following sub-questions:

- Has the expansion in Part B coverage reduced reliance on medical management of mental health conditions as evidenced by a shift in utilization across HCPCS codes?
- Has utilization shifted to more expensive therapies?

- Have the number of therapeutic interventions per beneficiary increased, indicating an increase in intensity of service?

C. **What are the characteristics of high users of outpatient Medicare mental health benefits and how do they compare to those of low users?**

The following information from Part B outpatient mental health claims will be used: age, sex, race, urban/rural location, entitlement status, prior mental health care, serious mental illness, primary **payor**, ever user, Medicaid coverage, submitted charges, Medicare expenditure, and diagnosis.

Profiles of beneficiaries who are high users of outpatient mental health care could be developed and compared to profiles of beneficiaries who are low users of outpatient mental health services. These profiles would provide an indication of which groups of beneficiaries would be most affected by reductions in coverage, and which groups of beneficiaries would probably be unaffected by reductions in coverage. This analysis would be completed for all study years (see Exhibit 4.4.10).

In addition, high and low users in one study year should be tracked into subsequent study years to determine whether long-term **high/low** users are noticeably different from **short-term high/low** users. For example, it is likely that some beneficiaries are high users in one or two years during which they are recovering from an acute/short-term mental health problem, and following that recovery period they are not high users of mental health services. This analysis should also identify high and low users in the first study year and follow them separately through the study period. A similar tracking of high and low users should be conducted for the second study year, then the third study year, etc. (see Exhibit 4.4.11).

The tracking of high users will be especially informative because it will identify that subset of high users who are likely to benefit the most from the Part B policy changes because they will receive the added benefits over a longer period of time. This analysis will also help identify beneficiaries who require a more comprehensive, long-term mental health benefit that is perhaps beyond the scope of the Medicare program.

EXHIBIT 4.4.8  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE **EXPENDITURES** BY DIAGNOSIS

[illegible]

## DISTRIBUTION OF MENTAL HEALTH SERVICES..CHARGES AND MEDICARE EXPENDITURES BY **DIAGNOSIS**

[illegible]

EXHIBIT 4.4.8  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY DIAGNOSIS

[illegible]

**EXHIBIT 4.4.8**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY DIAGNOSIS**

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Charges Per Mental Health Service</b> organic mental disorders substance use disorders schizophrenic disorders paranoid and other non-organic psychotic disorders affective & personality disorders anxiety, somatoform and dissociative disorders adjustment disorders disorders usually first evident in infancy, childhood, or adolescence, excluding mental retardation mental retardation other ICD-O-CM identified mental disorders* history of mental disorder, psychosocial circumstances, convalescence, observation, other nonspecific suspected mental disorder (v codes) other diagnosis combined with a mental health: provider specialty, type of service, procedure code, place of <b>service</b> , or revenue center code indicative of mental health services depression									
<b>Medicare Expenditures Per Mental Health Service</b> organic mental disorders substance use disorders schizophrenic disorders paranoid and other non-organic psychotic disorders affective & personality disorders anxiety, somatoform and dissociative disorders adjustment disorders disorders usually first evident in infancy, childhood, or adolescence, excluding mental retardation mental retardation other ICD-O-CM identified mental disorders* history of mental disorder, psychosocial circumstances, convalescence, observation, other nonspecific suspected mental disorder (v codes) Other diagnosis combined with a mental health: provider specialty, type of service, procedure code, place of service, or revenue center code indicative of mental health services depression									

**Notes:**

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.

4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.

Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.

5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

\* includes sexual deviations and disorders, physiological malfunction arising from mental factors, depressive disorder not elsewhere classified, and psychic factors associated with diseases classified elsewhere



**EXHIBIT 4.4.9**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY THERAPEUTIC INTERVENTION**

[illegible]

[illegible]

EXHIBIT 4.4.9  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY THERAPEUTIC INTERVENTION

[illegible]

**EXHIBIT 4.4.9**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY THERAPEUTIC INTERVENTION**

[illegible]

1) 2) 3) 4)

1) 2) 3) 4)

## DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND MEDICARE EXPENDITURES BY THERAPEUTIC INTERVENTION

[illegible]

EXHIBIT 4.4.9  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY THERAPEUTIC INTERVENTION

[illegible]

[illegible]



**EXHIBIT 4.4.9**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY THERAPEUTIC INTERVENTION**

[illegible]

## DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND MEDICARE EXPENDITURES BY THERAPEUTIC INTERVENTION

<b>Charges</b>	Per Mental Health Service								
<b>ICD-9-CM Procedure Codes:</b>	psychological evaluation and testing psychiatric interview, consultation, and evaluation psychiatric somatotherapy individual psychotherapy other psychotherapy and counseling referral for psychologic rehabilitation other procedure								
<b>HCPCS Procedure Codes:</b>	psychiatric - clinical diagnostic or evaluative procedures individual psychotherapy group psychotherapy psychiatric - narcosynthesis, medical psychoanalysis, or electroconvulsive therapy psychiatric - pharmacologic management other psychiatric therapy individual psychiatric therapy by CSW, psychiatric nurse, or other non-physician provider group psychiatric therapy by CSW, psychiatric nurse, or other non-physician provider other psychiatric services by CSW, psychiatric nurse, or other non-physician provider brief office visit for the sole purpose of monitoring or changing drug prescriptions psychological testing services activity connected with partial hospitalization other outpatient mental health evaluation and management emergency or critical mental health care mental health care provided at nursing home other mental health intervention								

EXHIBIT 4.4.9  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY THERAPEUTIC INTERVENTION

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
Revenue Center Codes: general psychiatric treatments electroshock treatment milieu or play therapy other psychiatric treatment general psychiatric services rehabilitation services day care night care individual therapy group or family therapy biofeedback and testing services other psychiatric services other revenue center mental health intervention									
Medicare Expenditures Per Mental Health Service  ICD-O-CM Procedure Codes: psychological evaluation and testing psychiatric interview, consultation, and evaluation psychiatric somatotherapy individual psychotherapy other psychotherapy and counseling referral for psychologic rehabilitation other procedure				.					

EXHIBIT 4.4.9  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY THERAPEUTIC INTERVENTION

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<p>HCPCS Procedure Codes:</p> <p>psychiatric - clinical diagnostic or evaluative procedures</p> <p>individual psychotherapy</p> <p>group psychotherapy</p> <p>psychiatric - narcosynthesis, medical psychoanalysis, or electroconvulsive therapy</p> <p>psychiatric - pharmacologic management</p> <p>other psychiatric therapy</p> <p>individual psychiatric therapy by CSW, psychiatric nurse, or other non-physician provider</p> <p>group psychiatric therapy by CSW, psychiatric nurse, or other non-physician provider</p> <p>other psychiatric services by CSW, psychiatric nurse, or other non-physician provider</p> <p>brief office visit for the sole purpose of monitoring or changing drug prescriptions</p> <p>psychological testing services</p> <p>activity connected with partial hospitalization</p> <p>other outpatient mental health evaluation and management</p> <p>emergency or critical mental health care</p> <p>mental health care provided at nursing home</p> <p>other mental health intervention</p> <p>Revenue Center Codes:</p> <p>general psychiatric treatments</p> <p>electroshock treatment</p> <p>milieu or play therapy</p> <p>other psychiatric treatment</p> <p>general psychiatric services</p> <p>rehabilitation services</p> <p>day care</p> <p>night care</p> <p>individual therapy</p> <p>group or family therapy</p> <p>biofeedback and testing services</p> <p>other psychiatric services</p> <p>other revenue center mental health intervention</p>									

**Notes:**

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.

- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting. Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

**EXHIBIT 4.4.10**  
AGGREGATE ANALYSIS  
**BENEFICIARIES WITH** HIGH OUTPATIENT MENTAL HEALTH CARE UTILIZATION

[illegible]

**EXHIBIT 4.4.10**  
**AGGREGATE ANALYSIS**  
**BENEFICIARIES WITH HIGH OUTPATIENT MENTAL HEALTH CARE UTILIZATION**

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
Ever User: <b>yes</b> <b>no</b>  Locality: urban rural unknown  Primary Payer: Medicare Veteran's Administration (VA) PHS or other federal agency (excluding VA) worker's compensation or other liability insurance group health plan through employer other payer									
Diagnosis: organic mental disorders substance use disorders schizophrenic disorders paranoid and other non-organic psychotic disorders affective & personality disorders anxiety, somatoform and dissociative disorders adjustment disorders disorders usually first evident in infancy, childhood, or adolescence, excluding mental retardation mental retardation other ICD-B-CM identified mental disorders* history of mental disorder, psychosocial circumstances, convalescence, observation, other nonspecific suspected mental disorder (v codes) other diagnosis combined with a mental health: provider specialty, type of service, procedure code, place of service, or revenue center code indicative of mental health services depression									

Notes:

- 1) As of December 31, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
 Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

\* includes sexual deviations and disorders, physiological malfunction arising from mental factors, depressive disorder not elsewhere classified, and psychic factors associated with diseases classified elsewhere

AGGREGATE ANALYSIS  
BENEFICIARIES WITH CONSISTENTLY HIGH **OUTPATIENT** MENTAL HEALTH CARE UTILIZATION  
INITIAL HIGH **OUTPATIENT** MENTAL HEALTH CARE USE IN 1986 • \*

[illegible]

AGGREGATE ANALYSIS  
**BENEFICIARIES WITH CONSISTENTLY HIGH OUTPATIENT MENTAL HEALTH CARE UTILIZATION**  
**INITIAL HIGH OUTPATIENT MENTAL HEALTH CARE USE IN 1986 . \***

	<b>1986</b>	Also High in <b>1987</b> <sup>1</sup>	Also High in <b>1988</b> <sup>2</sup>	Also High in <b>1989</b> <sup>3</sup>	Also High in <b>1990</b> <sup>4</sup>	Also High in <b>1991</b> <sup>5</sup>	Also High in <b>1992</b>	Also High in <b>1993</b>	Also High in <b>1994</b>
Ever User: <b>yes</b> no  Locality: <b>urban</b> <b>rural</b> unknown  Primary Payer: Medicare Veteran's Administration (VA) <b>PHS</b> or other federal agency (excluding VA) worker's compensation or other <b>liability</b> insurance group health plan through employer other payer									
Diagnosis: organic mental disorders <b>substance</b> use disorders schizophrenic disorders paranoid and other nonorganic psychotic disorders affective & <b>personality</b> disorders anxiety, somatoform and dissociative disorders adjustment disorders disorders <b>usually</b> first evident in infancy, childhood, or adolescence, excluding mental retardation mental retardation other <b>ICD-9-CM</b> identified mental disorders' history of mental disorder, psychosocial circumstances, convalescence, observation, other <b>nonspecific</b> suspected mental disorder ( <b>v</b> codes) other diagnosis combined with a mental health: provider specialty, type of <b>service</b> , procedure code, place of service, or revenue center code <b>indicative</b> of mental health services depression									

Notes:

- 1) **As** of December 21, 1987, **CPs** in **rural health** clinics were permitted to **render** services without physician supervision.
- 2) **As** of September 1, 1988, **CPs were** permitted to bill directly for services provided in community mental health centers.
- 3) **As** of January 1, 1989, **CPs were** permitted to bill **for** services provided to community mental health center patients off-site.
- 4) **As** of September 1, 1990, **CPs** were permitted to bill directly for outpatient services in any setting.  
 Additionally, as of September 1, 1990, **CSWs** were permitted to bill directly **for** outpatient services.
- 5) **As** of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in **rural areas**.

\* includes sexual deviations and **disorders, physiological** malfunction arising from mental factors. depressive disorder not elsewhere classified, and psychic factors associated with diseases classified elsewhere

\*\* Table will be repeated for initial high and low users in each study year from **1986-1993**. High and low users will **be tracked** separately beginning in **the first** year of high utilization through **1994**.



3. **Has there been an increase in the proportion of mental health services provided by mental health specialists compared to those provided by general physician providers?**

This evaluation question will be answered using the two analysis topics described below.

A. **What specialties deliver outpatient mental health services to Medicare beneficiaries and has the distribution of services and expenditures across specialties changed since the expansion of outpatient mental health coverage?**

This is the illustrative question which was examined in Section 4.3. For the sake of completeness, the proposed analysis is summarized below.

The following information from Part B outpatient mental health claims will be used: provider specialty, age, sex, race, urban/rural, entitlement status, prior mental health care, serious mental illness, primary **payor**, ever user, Medicaid coverage, submitted charges, and Medicare expenditure.

The goals of analyzing this question are to determine the effect of Part B coverage changes on provider specialty, and to ascertain whether charges and expenditures have changed within specialties across time. This analysis is one of the most important of the tracking study because Part B coverage expansions were specifically directed to **non-**physician providers of mental health care in addition to removing annual dollar limits on Medicare coverage. The purpose of expanding independent billing privileges to non-physician providers was to improve utilization of mental health services for vulnerable populations such as the very old and residents of rural areas who lack access to physician providers or who are reluctant to visit psychiatrists because of stigma associated with mental illness.

The analysis would include estimating the distribution of outpatient mental health services, total and per beneficiary charges and Medicare expenditures, and per service charges and Medicare expenditures by provider specialty for those beneficiaries receiving outpatient mental health services during the study year. These estimates would provide an indication of whether there has been a shift in the distribution of services across provider specialties, and whether charges and Medicare expenditures have changed within specialties across time. The specialties that would be analyzed include: psychiatrists, non-psychiatrist physicians, **CPs**, other psychologists, **CSWs**, nurse practitioners, and all other providers (see Exhibit 4.4.12).

**EXHIBIT 4.4.12**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY PROVIDER SPECIALTY**

[illegible]

EXHIBIT 4.4.12  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES. CHARGES AND  
MEDICARE **EXPENDITURES** BY PROVIDER SPECIALTY

	1988	1987 <sup>1</sup>	1 988 <sup>2</sup>	1 989 <sup>3</sup>	19904	1991 <sup>5</sup>	1992	1993	1994
<b>Medicare</b> Expenditures Per Mental Health Beneficiary psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Charges</b> Per Mental Health <b>Service</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									
<b>Medicare</b> Expenditures Per Mental Health <b>Service</b> psychiatrists other physicians clinical psychologists other psychologists clinical social workers nurse practitioners all other providers									

Notes:

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners were permitted to bill directly for services performed in rural areas.

The tables produced for this analysis topic could also be used to answer many important sub-questions. They include:

- Do rural beneficiaries see non-physician specialists more than urban beneficiaries?
  - Are younger beneficiaries more likely to see psychiatrists and less likely to see other physicians for mental health care?
  - Are the disabled or seriously mentally ill more likely to see psychiatrists than other beneficiaries?
  - Are prior users more likely to visit psychiatrists than are other beneficiaries perhaps indicating that beneficiaries initially seek care from non-psychiatrists, especially general practitioners, and then visit psychiatrists upon referral or as they gain more confidence in the mental health care system?
  - Have psychologists, clinical social workers, and nurse practitioners succeeded in capturing a substantial segment of the Medicare mental health care market?
  - Are psychologists, clinical social workers, and nurse practitioners more important sources of mental health care in rural areas than in urban areas?
  - Are charges and expenditures per service and per beneficiary substantially different across specialties?
  - Have charges and expenditures per service and per beneficiary changed since non-physician providers were granted independent billing privileges?
- B. **Where do Medicare beneficiaries receive outpatient mental health services, and has the distribution of services and expenditures across service sites changed since the expansion of outpatient mental health coverage?**

The following information from Part B outpatient mental health claims will be used: place of service, age, sex, race, urban/rural, entitlement status, prior mental health care, serious mental illness, primary **payor**, ever user, Medicaid coverage, submitted charges, and Medicare expenditure.

The objective of addressing this analysis topic is to determine whether the distribution of outpatient mental health services across service sites has changed since the implementation of Part B mental health coverage expansions. Specifically, are more mental health services being provided in clinic and outpatient hospital settings where non-physician

providers are likely to be located, and fewer services provided in office settings where physician providers are more prevalent?

The analysis would provide estimates of outpatient mental health services, total and per beneficiary charges and Medicare expenditures, and per service charges and expenditures by service site for those beneficiaries receiving outpatient mental health services during the year. The service site categories are limited by the data and would include: office, outpatient hospital, SNF or nursing home, mental health center or rural mental health center, ambulatory center, other place (see Exhibit 4.4.13).

**4. Has there been a shift in the distribution of mental health expenditures from inpatient to outpatient services?**

In addition to the analysis topic described below, the tables produced for analysis topic I.B (see evaluation question 1) will also be used to answer this evaluation question.

**A. How have the distributions of utilization of and expenditures for mental health services across inpatient and outpatient settings changed since the expansion of mental health benefits?**

The following information from both inpatient and outpatient mental health claims data will be used: age, sex, race, urban/rural location, entitlement status, prior mental health care, serious mental illness, primary **payor**, ever user, Medicaid coverage, submitted charges, Medicare expenditure, and length of stay for inpatient claims.

The analysis for this question will use data for those beneficiaries receiving any mental health care during the year. The aggregate table for this analysis is displayed in Exhibit 4.4.14. The distributions, by place of service, for each of the following variables should be calculated for each year: (1) number of beneficiaries receiving mental health services; (2) total mental health services provided; (3) total mental health charges; and (4) total Medicare mental health expenditures. For each variable, place of service should be defined as either inpatient or outpatient. If analysis of topic I.B indicates that it is feasible to clearly distinguish between partial hospitalization and other outpatient **services**, then outpatient services should be separated into these two categories, as we have done in the table. In order to determine how changes in the distributions for the last three of these four variables were influenced by changes in intensity of services and changes and expenditures per service, the table should also include each of the following variables cross tabulated by setting: (1) services per (mental health) beneficiary, (2) charges per beneficiary, (3) Medicare expenditures per beneficiary, (4) charges per service, and (5) Medicare expenditure per service.

**EXHIBIT 4.4.13**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND**  
**MEDICARE EXPENDITURES BY PLACE OF SERVICE**

[illegible]

EXHIBIT 4.4.13  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE EXPENDITURES BY PLACE OF SERVICE

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
<b>Medicare</b> Expenditures Per Mental Health Beneficiary office outpatient hospital SNF or nursing home mental health, rural mental health ambulatory center other place									
<b>Charges</b> Per Mental Health <b>Service</b> office outpatient hospital SNF or nursing home mental health, rural mental health ambulatory center other place									
<b>Medicare</b> Expenditures Per Mental Health Service office outpatient hospital SNF or nursing home mental health, rural mental health ambulatory center other place									

Notes:

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

**EXHIBIT 4.4.14**  
**AGGREGATE ANALYSIS**  
**DISTRIBUTION OF MENTAL HEALTH SERVICES. CHARGES AND**  
**MEDICARE EXPENDITURES FOR INPATIENT AND OUTPATIENT CARE**

[illegible]



EXHIBIT 4.4.14  
AGGREGATE ANALYSIS  
DISTRIBUTION OF MENTAL HEALTH SERVICES, CHARGES AND  
MEDICARE **EXPENDITURES** FOR INPATIENT AND OUTPATIENT CARE

	1988	1987 <sup>1</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1990 <sup>4</sup>	1991 <sup>5</sup>	1992	1993	1994
Medicare Expenditures Per Mental Health Service <b>Any Mental Health Care</b> <b>Outpatient Mental Health Services (excl. partial hosp.)</b> <b>Partial Hospitalization</b> <b>Inpatient Mental Health Admissions</b>									
Average Annual Length of Stay for Inpatient Mental Health Admissions									
Average Annual Length of Stay for PPS Inpatient Mental Health Admissions									
Average Annual Length of Stay for TEFRA Inpatient Mental Health Admissions									

Notes:

- 1) As of December 21, 1987, CPs in rural health clinics were permitted to render services without physician supervision.
- 2) As of September 1, 1988, CPs were permitted to bill directly for services provided in community mental health centers.
- 3) As of January 1, 1989, CPs were permitted to bill for services provided to community mental health center patients off-site.
- 4) As of September 1, 1990, CPs were permitted to bill directly for outpatient services in any setting.  
Additionally, as of September 1, 1990, CSWs were permitted to bill directly for outpatient services.
- 5) As of January 1, 1991, Nurse Practitioners permitted to bill directly for services performed in rural areas.

The analysis for this question should also include estimates of length of stay for hospital inpatients requiring mental health services. It would be informative to learn whether the number of days spent in the hospital per mental health admission has changed since the implementation of Part B mental health coverage **expansions**.<sup>29</sup> This information would supplement the estimates of admissions (i.e. inpatient utilization estimates) for beneficiaries receiving mental health services in an inpatient setting. It should be noted, however, that length of stay estimates will be influenced by the substantial reductions in length of stay that have occurred since the inception of the Medicare Prospective Payment System (PPS), which was introduced in 1983. For example, length of stay for persons age 65 and older declined by 8.7 percent from 1983 to **1989**.<sup>30</sup> PPS provides incentives to reduce inpatient length of stay in hospitals reimbursed under the DRG system because under **DRGs**, a hospital is reimbursed a set amount per discharge regardless of length of **stay**.<sup>31</sup> These incentives have contributed to the decline in length of stay since 1984, and the simultaneous increase in care provided in outpatient settings. Between 1983 and 1989, Medicare payments for hospital outpatient services increased at an average annual rate of about 16 percent. Payments for inpatient services increased by 6 percent during this same **period**.<sup>32</sup>

Despite the complexity added by PPS incentives, a length of stay analysis will be informative particularly if discharges from PPS beds are separated from TEFRA discharges. The incentive under PPS to discharge patients as quickly as possible did affect TEFRA hospitals and distinct part units because the DRG system was not extended to these

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\*“Mental health admission” refers to inpatient hospital stays for beneficiaries receiving mental health services during that inpatient stay. “Inpatient stay” excludes institutionalized Medicare beneficiaries (i.e. those beneficiaries living in nursing homes, residential treatment centers, hospices, etc.). This definition of “mental health admission” includes all inpatients who receive mental health services during their hospital stay regardless of whether the admission was precipitated by mental illness, or a physical condition coupled with post-admission onset or diagnosis of a mental health problem.

<sup>30</sup>**Prospective** Payment Assessment Commission, *Medicare Prospective Payment and the American Health Care System*, Report to the Congress, June 1990, p. 66.

<sup>31</sup>**Additional** reimbursement can be received for day or cost outliers; however, the PPS program is designed to strictly limit the amount of outlier payments in a given year. Consequently, most hospitals receive only the applicable DRG amount for Medicare discharges. DRG payment amounts vary depending upon the reason for hospitalization, and there are 492 possible **DRGs** that a patient could be placed in depending upon the reason for hospitalization.

<sup>32</sup>**Prospective** Payment Assessment Commission, *Report and Recommendations to the Congress*, March 1, 1991, p. 79.

providers. Psychiatric hospitals and psychiatric units of general hospitals are reimbursed under TEFRA; providers are paid based on the hospital's or unit's historical costs trended forward to create a target rate per discharge. Hospitals or units with less than the target rate per discharge receive their cost plus an additional payment that is the lesser of 50 percent of the difference between its costs and the TEFRA target rate, or 5 percent of the TEFRA target rate. Hospitals or units with costs exceeding the target rate per discharge received an extra payment of 25 percent of the difference between their costs and the TEFRA target rate in 1983 and 1984. From 1985 through FY 1991, however, hospitals or units with costs higher than the target rate per discharge received no additional payments. Beginning in FY 1992, hospitals and units receive 50 percent of their costs above the target amount, subject to a payment ceiling of 110 percent of the target amount?

#### **4.5 Controlling for Changes in Characteristics of the Medicare Population Over the Study Period**

##### **A. Alternative Methods**

The purpose of this Section is to describe three methods for adjusting estimates of changes in Medicare mental health utilization to reduce or eliminate the effects of changes in characteristics of the Medicare population over time. Controlling for changes in beneficiary characteristics is critical to the analyses because shifts in utilization caused by changes in Part B coverage are confounded in the data with shifts due to changes in beneficiary characteristics.

The first method, called the "weighted mean" method, is the simplest to apply, but also is the least satisfactory in terms of controlling for changes in characteristics. The second method, called the "regression" method, is computationally more difficult, but is expected to yield more complete adjustments. The third method, called the "panel data" method, will provide more complete adjustments than either the weighted mean or regression method, but it is computationally more demanding than the weighted mean method. As its name suggests, the panel data method uses the panel feature of the data, whereas the other two methods do not. As mentioned in the introduction, one important reason for collecting panel data is to allow the use of this method. If panel data were not collected, and instead a sequence of independent cross-section samples were used, the panel data method could not be used;

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<sup>33</sup>**Prospective** Payment Assessment Commission, *Report and Recommendations to the Congress*, March 1, 1991, p. 75.

however, either of the first two methods could be applied. Note also that it is not 'necessary' to collect panel data for every year in order to use the panel data method. Even if we only constructed a data set that included data for selected years, we could still construct a panel data set. However, failure to collect claims data for every year would significantly undermine the other rationale for collecting panel data: the ability to observe prior utilization of mental health benefits.

In the discussion that follows, consider the analysis of a single hypothetical measure of utilization,  $U$ , that represents any one of the many different utilization measures discussed in previous sections. For instance,  $U$  might represent Medicare expenditures per visit for persons visiting psychiatrists, or it might be a 'binomial' or "dummy" variable (flag) that indicates whether or not a person used a particular type of service in a **year**.<sup>34</sup> The behavior of the means of these utilization variables is the focus of the aggregate analyses described earlier. For the adjusted aggregate analyses, the focus is on constructing estimates of what the aggregate means would have been had there been no change in the characteristics of the Medicare population over the study period. In other words, the adjusted aggregate analyses measure the behavior of the means of the utilization variables assuming that the characteristics of the Medicare population were constant over time and, therefore, did not affect utilization. This adjustment process reduces or eliminates the bias that is inherent in using observed changes in  $U$  as estimates of the effects of changes in Part B policy; however, bias due to possibly incomplete adjustment for changes in characteristics and to changes in various macro factors will remain. Hereafter, the actual mean of  $U$  refers to the mean from the aggregate analysis, and the adjusted mean refers to the mean that would have been observed had there been no changes in characteristics.

## **B. Weighted Mean Method**

The weighted mean method involves two steps:

1. For each study year, divide the sample into groups that are cross-classified by beneficiary characteristics. For example, if 5 age categories are defined and beneficiaries are classified by sex and age, there would be 10 groups. After grouping beneficiaries the actual mean of  $U$  for each group would be calculated.

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<sup>34</sup>**Note** that the mean of a dummy variable is the proportion of the sample that is in the category represented by the dummy flag.

2. For each study year, a weighted mean of the group means would be computed using the proportion of beneficiaries in a particular group in the base year (1986) as the group's weight. The resulting means are adjusted for changes in certain beneficiary characteristics; in this example, age and sex.

This method adjusts only for those characteristics that are used to define the groups. For continuous variables such as age, the adequacy of the adjustment will depend on the number of categories used; the more categories used, the more precise the adjustment. While it is possible to include more variables in the adjustment process (e.g., race, region,, rural/urban, entitlement status) and groups than in the sex/age illustration used here, the size of the sample in each group diminishes as the number of characteristics, or the number of categories for some characteristics, increases, and at some point the numbers in some groups will be too small for meaningful **analysis**.<sup>35</sup>

### C. Regression Method

The regression method can be viewed as an extension of the weighted mean method described above. Therefore, to illustrate the relationship between the two methods, the following explanation replicates the weighted mean method with regression analysis for the ten age/sex groups defined above. As with the weighted mean method, the analysis has two steps:

1. Define five dummy variables: (1) SEX, defined to be zero for males and one for females, (2) **AGE1**, defined to be one for beneficiaries in the first age category and zero for all other beneficiaries, (3) AGE2, defined to be one for beneficiaries in the second age category and zero for all other beneficiaries, (4) AGE3, defined to be one for beneficiaries in the third age category and zero for all other beneficiaries, and (5) AGE4, defined to be one for beneficiaries in the fourth age category and zero for all other beneficiaries. Then for each study year, regress U on the following explanatory variables: (1) SEX, (2) the four age dummies, and (3) four 'cross-products' obtain by multiplying each of the four age dummies by the sex dummy. This regression will include an intercept, and the estimated intercept for a given year will be the mean of U for beneficiaries in the "base group." The base group includes men in the fifth age category.

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<sup>35</sup>One commonly used rule for determining whether a sample size is large enough to obtain a meaningful estimate is based on the "relative standard error," or "coefficient of variation," for the variable being measured. This value is the estimated sampling error (standard error) for the mean being estimated, divided by the mean itself. The estimated sampling error is the sample standard deviation divided by the inverse of the square root of the sample size, and thus declines with sample size. The rule is to reject the estimate of the mean as too unreliable if the relative standard error exceeds 30%.

Various combinations of the resulting regression coefficients and the intercept value yield the means of each of the 10 groups including women in the fifth age category.

2. Compute the mean value of each explanatory variable (including the **cross-products**) for the base year (1988). Use these means in the estimated regressions to compute predictions of what the mean value of U would have been in each study year had the mean of the explanatory variables (in this example, beneficiary age and sex) in each year been the same as in the base year. The resulting predicted values are adjusted means that are identical to the adjusted means obtained by the weighted mean method under the same sex/age grouping scheme.

The regression method for calculating adjustments can be extended to incorporate more characteristics and more categories per characteristic, but each added characteristic or category requires the addition of a full set of interactions between new dummy variables and existing variables. Sample size constraints soon become apparent as the number of explanatory variables increases.

The strength of **the** regression method is that it can be modified to avoid sample size constraints, although such modified models are more restrictive. For example, the four age group dummies could be replaced by a continuous age variable where each age is treated as a different age group; however, the effect of aging on mental health care utilization would be restricted to be the same for all beneficiaries regardless of **age**.<sup>36</sup> In other words, a graph of the effect of aging on utilization would **be** linear. This restriction is unrealistic because it is unlikely that utilization of mental health services changes with age identically across all ages. The linear constraint could be partially relaxed by squaring beneficiary age so that the effect of aging on utilization is allowed to be nonlinear.

Another method of avoiding sample size constraints would be to add a dummy variable (for example, entitlement status) but not interact that variable with sex, age, or any other variable included in the regression. This approach assumes that the effect of disability on utilization **does** not depend on either age, sex, or any other explanatory variable included in the regression model. One way to implement this approach is to start with a full set of

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<sup>36</sup>When age is grouped into dummy variables, each group becomes a variable in the regression equation and one coefficient is calculated for each age group dummy, thereby allowing each age group to have a different effect (as measured by the coefficient) on utilization. When age is used as a continuous variable, however, it is only one variable in the regression equation and only one coefficient is calculated. Consequently, a change in age then has the same effect on utilization regardless of the age of the beneficiary.

interactions, and then do statistical tests to determine which interactions to omit. ‘Judicious specification of explanatory variables such as illustrated by the entitlement status example above, can lead to a model that controls for substantially more characteristics than the weighted mean method without encountering sample size constraints.

#### **D. Panel Data Adjustment Method**

This panel data adjustment method includes three steps:

1. For each study year, starting in the second year of the study (1987) and proceeding through the last (**1994**), compute the change in U for every beneficiary who is in the sample in both that year and the prior year, and then compute the aggregate mean of these annual changes. The aggregate mean change for each year is the sum of two components: (1) the mean change due to aging the Medicare population by one year, and (2) the mean change due to policy changes and changes in any other “macro” factors -- factors that might affect U for all individuals in the Medicare population. Note that there is no component for changes in characteristics because for each year we are computing the mean change for a fixed set of beneficiaries, although the sample beneficiaries do gradually change over time as some members of the sample die or lose Medicare eligibility and some newly eligible members of the Medicare population enter the sample. Annual changes are computed using only beneficiaries who are in the sample in both years included in the computation. For example, the annual change for 1987 is computed using only beneficiaries who are in the sample in both 1986 and 1987. The change for 1988, however, is computed using a somewhat different set of beneficiaries, specifically, those beneficiaries who are in the sample in both 1987 and 1988.
2. Estimate the mean change due to aging the Medicare population by one year. This can be done in several ways, but in fact the method used is of little consequence, as will be explained below. For now, assume that a reasonable estimate is obtained using an appropriate method. Subtract this estimate from each of the aggregate mean changes of U computed in Step 1. The result for each year is an estimate of the change in the mean value of U that is due to the Part B policy changes and other macro factors.
3. Add the 1987 change from Step 2 to the actual mean of U for the base year (1986) to get the adjusted mean for the second year (1987). Add to this the Step 2 result for the third year (1988) to get the adjusted mean for the third year, etc.

The resulting annual mean changes are controlled for all characteristics of Medicare beneficiaries that are fixed for individuals (e.g., sex, race, ethnicity) whether or not they are observed in the Medicare data. Further, adjustment for aging will hold constant characteristics

that change to the extent that they change systematically with age (e.g., health status, marital status, place of residence). This is the primary advantage of the panel data method over the other two approaches. It would, however, be a mistake to conclude that the method entirely controls for all such characteristics. The method does not control for the gradual, year-to-year change in the sample that is used to compute the mean changes. The average changes computed in Step 1 (which represent the sum of changes due to aging, the policy changes, and other macro factors) may in turn depend on the characteristics of the Medicare population. If they do, the adjusted means computed in Step 3 will not be completely adjusted for changes in characteristics because the composition of the sample changes slightly from year to year as beneficiaries lose or gain eligibility. The effects of sample changes are what are called “second order effects.” First order effects, which are the direct effects of changes in characteristics on utilization, are likely to be more substantial and will be controlled for by the panel data method.

The panel data method could be modified to control for some second order effects. For example, the weighted mean method could be applied on top of the panel data method, as follows: first, use the panel data method to construct series of adjusted means within age/sex groups; then compute weighted averages of the adjusted means for each year, using the proportions in each group for the base year as weights. The regression method could also be used on top of the panel data method, but the benefits of this added complexity are likely to be small.

As stated in Step 2, the approach selected to estimate the mean effect of aging on utilization is not very important. This is because the focus of the study is on year-to-year changes in utilization that are caused by changes in Medicare policy. Changes caused by the effect of aging shift all year-to-year adjusted mean changes up or down by the same amount, leaving the pattern of year-to-year change unaffected feature of the sample is crucial for this to be true; as some sample beneficiaries die and exit the sample, a sample of newly eligible beneficiaries replaces them, so that the sample remains representative of current beneficiaries.

The effect of aging on the change in average utilization can be estimated very simply as follows: for each year, run a regression of the utilization variable,  $U$ , on age. The coefficient from this regression is an estimate of how, on average, utilization changes with age across the persons in that year's sample. This will be a reasonable estimate of the average effect of aging if it is reasonable to expect that the average person of age 66, for example, in the study year would have had the same average level of utilization in that year as the



average person of age 67 if the person age 66 had been one year older. In these regressions, it is inappropriate to control for variables such as race and sex because this would have the effect of producing an estimate of the average effect of aging holding the race and sex composition of population constant. Since men have lower life expectancy than women and some races have lower life expectancy than others, the race/sex composition of the population changes as aging occurs. The average effect of aging that we are trying to estimate includes these compositional changes, as well as others. By not controlling for these factors, the age coefficients will also reflect the effects of compositional changes.

A regression coefficient will be obtained for each of the 9 years of the study. There are several ways that these could be used to adjust for aging, and it will be necessary to examine the results of the regressions before determining which way is best. The best method will depend on how much variability there is in the coefficients across years, and the source of the variability.

We consider three methods here, but this does not exhaust the possibilities. In the first method, the average coefficient, over all study years, would be subtracted from the average change for each year. In the second, the coefficient for a particular year would be subtracted from the average change for that year. In the third, the coefficient for 1986 would be subtracted from the average change for all years. If there is **little variation** in the estimated coefficient from one year to the next, the choice of method will be inconsequential. If there is substantial variation, the best method depends on the source of the variation.

One source of variability is sampling error. If this is the major source, then the average coefficient over all years will be best since it will minimize sampling error. Since the sample sizes will be large, however, it seems unlikely that this will be an important source of variation in the estimates. A second source of variability is variation in the average characteristics of the people in the sample, as some sample members die or lose Medicare eligibility and newly eligible beneficiaries enter the sample. If this is the primary source of variability, then the second method -- subtracting each year's coefficient from the average change for that year -- is most appropriate since we would like to eliminate variability that is due to changes in characteristics. A third source of variability is the possibility that the impacts of the policy change will be related to age. If so, then the regression coefficients will reflect the effect of the policy changes as well as the effect of aging. In this case, it would be better to use the age coefficient from the first year studied (1986) as an estimate of the effect of aging for all years.

With luck, variability in the age coefficients will be small and the choice will be easy. If not, the coefficients themselves and other information from the data should be helpful in distinguishing between the three sources of variability in the estimates. The standard errors of the individual coefficients will indicate the importance of sampling error. Year-to-year changes in observed characteristics of sample members will indicate the importance of changes in the characteristics of Medicare eligibles. The third source of variability would be indicated by a systematic relationship between the coefficients and the policy changes.

## **E. Comments**

The panel data method yields clearly superior adjustments for the effects of changes in characteristics because it controls for all characteristics, not just the few that are collected in Medicare claims data. The panel data method's main drawback is that it requires the use of panel data. If a panel data set is not constructed for the evaluation, then another adjustment method must be selected.

One feature common to all the adjustment methods described above deserves emphasis: they do not adjust for changes in macro factors that might affect utilization. Thus, even if beneficiary characteristics are completely controlled for, the year-to-year changes in the adjusted means represent the combined effects of the policy changes and the macro factors.

## **4.6 Data Elements and Definitions**

The data elements defined in Exhibit 4.6.1 are needed for the tracking study. These data must be collected for each sample beneficiary for every year the beneficiary is in the tracking study.

From 1991 on, almost all of the data elements appear in the National Claims History (NCH) file; the exceptions are in the Health Insurance Skeleton Eligibility Write-off (**HISKEW**) file and/or the 'Denominator File.' NCH dictionary names for NCH elements appear in Exhibit 4.6.1. For the years 1987 to 1990, many of the data elements can be found in the **5%-plus** NCH sample, which uses the same dictionary names, but the **5%-plus** data are drawn from other sources and are not always comparable. To get more detailed and comparable data, it will be necessary to consult source files. For institutional Part B bills, the Standard Analytic Outpatient File contains **100** percent of final bills from 1986 through 1991. For physicians and

other non-institutional providers, claims information for the five percent sample can be obtained from the **Part B** Medicare Annual Data (BMAD) file. It should also be noted that **the** Part B Extract and Summary System (BESS) permits continued analysis of the BMAD **5%-plus** beneficiary file for 1991 onward. BESS uses the same file structure as BMAD but draws from the Common Working File, which is the source of the NCH for 1991 and subsequent years.

As discussed in Section **4.2.A**, the tracking study will also benefit from matching of PACE and MBR data to the NCH data. Specifically, PACE data will be used to analyze trends in use of psychotropic medications. MBR data will be used to identify tracking study beneficiaries who were ever disabled due to mental illness, and for analyzing a sample of **SSDI** beneficiaries who were disabled due to mental illness but who did not receive services under the Medicare program during the particular study year. PACE and MBR data items are not included in Exhibit 4.61. Further discussion of these data appears in Chapter 5.

Data definitions and groupings that will be used throughout the tracking study are presented after Exhibit 4.6.1. Groupings include age groups, provider specialty, and diagnosis code groups; and data definitions include the derivation of variables that would be created from other variables contained in the tracking study database (e.g., entitlement status). These groups and definitions are based on current NCH, ICD-O-CM, and HCPCS coding practices. To the extent that coding practices have changed since 1986, adjustments may have to be made to definitions or groups to maintain as much consistency as possible across study years. Coding practices in HCFA claims files rarely change in ways that would affect definitions and group composition. **ICD-9-CM** codes have also been stable, although as practice patterns have evolved it is likely that diagnoses have evolved as well. HCPCS codes **have** changed substantially since 1986, although the changes have not been to the coding scheme as a whole, but to specific codes. For example, HCFA began emphasizing uniformity **across carriers in coding practices** since the late 1980s and has pushed to eliminate many of the carrier-specific and HCFA-specific codes. The **CPT-4** codes which make up the bulk of HCPCS services are promulgated by the AMA and they have been much more **stable** over the proposed study period. Nevertheless, after a final decision is made concerning the tracking study period, comparisons of HCPCS codes across tracking study years will **be** necessary before the study can be completed.

The National Claims History files include on-line, nearline, and off-line databases, as **well as summary databases, a program liability database, and a control file.** Claims data are **generally available from** NCH within one month of claims processing and payment authorization. NCH **files include** 100 percent of Medicare claims information, including line

item information for all **services** reported on a claim. Additionally, complete claims information for the 5% Plus beneficiary sample is maintained in the on-line file. The 5% Plus sample includes claims data for approximately 5 percent of all beneficiaries, or about 1.6 million persons. The on-line file includes data for the current year plus the immediately preceding 3 years. Older data is archived to the NCH off-line files. Data in the off-line files can be retrieved as needed and is generally available within one month of an approved **request**.<sup>37</sup>

The chapter concludes with a table that summarizes the data quality problems that we are aware of (Exhibit 4.6.2). The references in the second column of the table indicate the sections of this report in which further discussion of the problems can be found.

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“Information on the National Claims History file was provided by the Health Care Financing Administration, Office of Statistics and Data Management, Bureau of Data Management and Strategy (BDMS).

## EXHIBIT 4.6.1

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not in NCH file)	DEFINITION
HISKEW and Denominator File	Coverage code	No coverage or deceased Part A coverage only Part B coverage only Part A and Part B coverage
HISKEW and Denominator File	Original Reason for Entitlement	OASI (aged) DIB (disability) Renal (ESRD) Both DIB and Renal
HISKEW	Bill code	Party Paying Supplementary Medical Insurance (Part B):  beneficiary public assistance private third party civil service
NCH, HISKEW, & BENE_BIRTH_DT Denominator File		Julian date of beneficiary's birth
NCH, HISKEW, & BENE_CLM_ACNT_NUM Denominator File		Beneficiary's claim account number used, along with the BENE_IDENT_CD to uniquely identify a beneficiary
NCH, HISKEW, & BENE_IDENT_CD Denominator File		Beneficiary's health insurance claim number

EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not in NCH file)	DEFINITION
NCH, HISKEW, & Denominator File	BENE_MDCR_STUS_CD	Current reason for entitlement:  10 aged <b>w/o</b> ESRD 11 aged <b>w/</b> ESRD 20 disabled <b>w/o</b> ESRD 21 disabled <b>w/</b> ESRD 31 ESRD only
NCH	BENE_PRMRY_PYR_CD	Primary <b>payor</b> :  A working aged beneficiary/spouse with employer group health plan B ESRD beneficiary in 12 month coordination period with employer group health plan C conditional Medicare payment, future reimbursement expected D automobile no-fault or any liability insurance E worker's compensation F IPHS or other federal agency (other than VA) G working disabled H black lung I VA Z Medicare
NCH	BENE_PRMRY_PYR_CLM_PMT_A IMT	Amount of payment made on behalf of Medicare beneficiary by a primary <b>payor</b> other than Medicare, that the provider is applying to covered Medicare charges on a claim

EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name If not In NCH file)	DEFINITION
NCH, HISKEW, & Denominator File	BENE_RACE_CD	Race: white black other unknown
NCH, HISKEW, & Denominator File	BENE_SEX_IDENT_CD	Sex: 1 male 2 female 0 unknown
NCH & Denominator File	BENE_RSDNC_SSA_STD_CNTY_C D	SSA county code
NCH & Denominator File	BENE_RSDNC_SSA_STD_STATE_ C D	SSA state code
NCH	CLM_ADMSN_DATE	Admission date for institutional claim if beneficiary admitted as inpatient (inc. SNF, hospice, etc.)
NCH	CLM_ADMTG_DGNS_CD	Initial diagnosis at admission on institutional claim (ICD-O-CM)
NCH	CLM_CVR_DAY_CNT	Medicare covered days for inpatient institutional claims (inc. SNF, hospice, etc.)
NCH	CLM_DRG_CD	DRG for inpatient hospital claims

**EXHIBIT 4.6.1 (continued)**

<b>DATA SOURCE, DICTIONARY NAME, AND DEFINITION</b>		
<b>SOURCE</b>	<b>DICTIONARY NAME (HISKEW name if not in NCH file)</b>	<b>DEFINITION</b>
NCH	CLM_FAC_TYPE_CD	<p>First digit of type of claim code used in conjunction with <b>CLM-SRVC-CLSFACTN-TYPE-CD</b> and <b>CLM_FREQ_CD</b> to indicate the specific type of institutional claim. Indicates the type of facility that provided care to the beneficiary:</p> <ul style="list-style-type: none"> <li><b>1</b> hospital</li> <li><b>2</b> SNF</li> <li><b>3</b> HHA</li> <li><b>4</b> Christian Science hospital</li> <li><b>5</b> Christian Science extended care</li> <li><b>6</b> intermediate care</li> <li><b>7</b> clinic</li> <li><b>8</b> special facility or ASC surgery</li> <li><b>9</b> reserved</li> </ul>



## EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not in NCH file)	DEFINITION
NCH	CLM_FREQ_CD	<p>Third digit of type of claim code used in conjunction with <b>CLM_FAC_TYPE_CD</b> and CLM_SRVC_CLSFCTN_TYPE_CD to indicate the specific type of institutional claim. Indicates the sequence of a claim in the beneficiary's current episode of care associated with a given facility:</p> <p>A admission notice (hospice)  0 non-payment/zero claims  1 admit through discharge claim  2 interim - first claim  3 interim - continuing claim  4 interim - last claim  5 late charge(s) only claim  6 adjustment of prior claim  7 replacement of prior claim  8 void/cancel prior claim  9 reserved  P adjustment required by PRO  I miscellaneous adjustment claim - used to identify a debit adjustment initiated by HCFA or an intermediary</p>
NCH	CLM_FROM_DATE	First day of billing statement for services rendered to beneficiary (YYYYMMDD)
NCH	CLM_LINE_DGNS_CD	Diagnosis supporting the CWFB line item (ICD-9-CM)

## EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME ( <b>HISKEW</b> name if not in NCH file)	DEFINITION
NCH	CLM_NCVR_DAY_CNT	Medicare noncovered days for inpatient institutional claims (inc. SNF, hospice, etc.)
NCH	CLM_OTHR_DGNS_CD	<b>Other</b> diagnosis code ( <b>ICD-9-CM</b> )
NCH	<b>CLM_OTHR_PRCDR_CD</b>	Other surgical procedure code for institutional claim ( <b>ICD-9-CM</b> , volume 3) (not on HHA or hospice claims)
NCH	<b>CLM_PRNCPAL_DGNS_CD</b>	Diagnosis chiefly responsible for services provided to the beneficiary and reported on this claim ( <b>ICD-9-CM</b> )
NCH	CLM_PRNCPAL_PRCDR_CD	Principal surgical procedure code for institutional claim ( <b>ICD-9-CM</b> , volume 3) (not on HHA or hospice claims)
NCH	<b>CLM_PRVDR_PMT_AMT</b>	Amount paid to institutional provider for all services on a claim (after adjusting for deductible, copay, and other primary <b>payor</b> )

EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not in NCH file)	DEFINITION
NCH	CLM_SRVC_CLSFCTN_TYPE_CD	<p>Second digit of the type of claim code used in conjunction with <b>CLM_FAC_TYPE_CD</b> and <b>CLM_FREQ_CD</b> to indicate the specific type of institutional claim. Indicates the classification of the type of service provided to the beneficiary:</p> <p>For facility type code 1 through 5 and 9 (hospital, SNF, HHA, Christian Science hospital, Christian Science extended care, and resewed):</p> <ul style="list-style-type: none"> <li>1 inpatient (including Part A)</li> <li>2 inpatient (Part B only) or home health visits under Part B</li> <li>3 outpatient (inc. HHA Part A)</li> <li>4 other (Part B)</li> <li>8 swing beds</li> <li>9 reserved</li> </ul> <p>For facility type code 7 (clinic):</p> <ul style="list-style-type: none"> <li>1 rural health</li> <li>2 freestanding renal dialysis center</li> <li>4 other rehabilitation</li> <li>5 comprehensive rehab center (CORF)</li> </ul> <p>For facility type code 8 (special facility or ASC):</p> <ul style="list-style-type: none"> <li>1 hospice (non-hospital based)</li> <li>2 hospice (hospital based)</li> <li>3 ambulatory surgery center (ASC)</li> </ul>

EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not in NCH file)	DEFINITION
NCH	CLM_THRU_DATE	Last day of billing statement for services rendered to beneficiary (YYYYMMDD)
NCH	CWFB_ALOW_CHARG_AMT	Allowed charge for the CWFB line item record (before adjusting for deductible, copay, or other primary <b>payor</b> )
NCH	<b>CWFB_CARR_PRCNG_LCLTY_CD</b>	Pricing locality code used to calculate reimbursement for a CWFB line item record
NCH	<b>CWFB_CLM_5PCT_IND_SW</b>	5% Plus sample beneficiary: Yes or No
NCH	<b>CWFB_1ST_EXPNS_DT</b>	Beginning date for <b>service</b> recorded on a CWFB line item record
NCH	<b>CWFB_LAST_EXPNS_DT</b>	Ending date for service recorded on a CWFB line item record

EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not in NCH file)	DEFINITION
NCH	CWFB_HCFA_PRVDR_SPCLTY_CD	<p>HCFA assigned specialty on CWFB line item record; notably:</p> <ul style="list-style-type: none"> <li>01 general practice</li> <li>08 family practice</li> <li>11 internal medicine</li> <li>26 psychiatry</li> <li>27 psychiatry, neurology (osteopath)</li> <li>70 clinic or other group practice, except GPPP</li> <li>75 other medical care (group practice)</li> <li>99 unknown (inc. social worker psychiatric services)</li> <li>80 public health or welfare agencies</li> <li>61 voluntary health or charitable agencies</li> <li>62 psychologist (billing independently)</li> <li>88 clinical psychologist</li> <li>80 clinical social worker</li> </ul>

EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not in NCH file)	DEFINITION
NCH	CWFB_HCFA_TYPE_SRVC_CD	<p>HCFA assigned type of service on CWFB claim:</p> <ul style="list-style-type: none"> <li>1 medical care</li> <li>2 surgery</li> <li>3 consultation</li> <li>4 diagnostic x-ray</li> <li>5 diagnostic lab</li> <li>6 radiation therapy</li> <li>7 anesthesia</li> <li>6 assistance at surgery</li> <li>9 other medical service</li> <li>0 whole blood or packed red cells</li> <li>A used DME</li> <li>B high risk mammography</li> <li>C low risk mammography</li> <li>F ambulatory surgical center (facility usage)</li> <li>G immunosuppressive drugs</li> <li>H hospice services</li> <li>I purchase of DME (installment)</li> <li>L renal supplier in the home</li> <li>M monthly dialysis payment</li> <li>N kidney donor</li> <li>P purchase of DME (lump sum)</li> <li><b>R</b> rental of DME</li> <li>T psychological therapy</li> <li>U occupational therapy</li> </ul>

EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not In NCH file)	DEFINITION
NCH	CWFB_MTUS_CNT	Count of total units provided to beneficiary for CWFB line item record (use in conjunction with CWFB_MTUS_IND_CD)
NCH	CWFB_MTUS_IND_CD	<p>Definition of units included in CWFB_MTUS_CNT:</p> <ul style="list-style-type: none"> <li><b>0</b> no allowed services</li> <li><b>1</b> ambulance miles</li> <li><b>2</b> anesthesia time units</li> <li><b>3</b> services</li> <li><b>4</b> oxygen units</li> <li><b>5</b> units of blood</li> <li><b>6</b> anesthesia base and time units</li> </ul>

EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name If not In NCH file)	DEFINITION
NCH	CWFB_PLC_SRVC_CD	<p>Place of service on <b>CWFB</b> claim:</p> <p>1 off ice</p> <p>2 home</p> <p>3 inpatient hospital</p> <p>4 <b>SNF</b></p> <p>5 outpatient hospital</p> <p>6 independent lab</p> <p>7 other</p> <p>8 independent kidney disease treatment center</p> <p>9 ambulatory center</p> <p>A ambulance service</p> <p>H hospice</p> <p>M mental health, rural mental health</p> <p>N nursing home</p> <p>R rural: off ice</p> <p>S rural: home</p> <p>P rural: inpatient hospital</p> <p>U rural: <b>SNF</b></p> <p>Q rural: outpatient hospital</p> <p>V rural: independent lab, other, kidney disease treatment center, ambulance, or hospice</p> <p>W rural: ambulatory center</p> <p>T rural: nursing home</p>
NCH	CWFB_PMT_AMT	Total reimbursement made to provider and/or beneficiary for services included on the CWFB line item record



## EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name If not In NCH file)	DEFINITION
NCH	CWFB_PRCSG_IND_CD	Code indicating the reason a CWFB line item was allowed or denied:  A allowed B benefits exhausted C noncovered care I invalid data M multiple submittal (duplicate line item) N medically unnecessary O other R reprocessed adjustment based on subsequent reprocessing of claim S secondary payor
NCH	CWFB_PRVDR_TYPE_CD	Provider Type on CWFB claim:  1 physicians or solo practitioner suppliers 2 non-solo suppliers 3 institutional providers 4 independent lab 5 clinic (multi-specialty) 6 group (single specialty) 7 other
NCH	CWFB_SBMT_CHRG_AMT	Submitted charges for the CWFB line item record
NCH	CWFB_SRVC_CNT	Total number of services for the CWFB line item

EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not in NCH file)	DEFINITION
NCH	HCPCS_CD	HCPCS code (not required for inpatient claims)
NCH	HCPCS_INITL_MDFR_CD	HCPCS first modifier (not required for inpatient claims)
NCH	HCPCS_2ND_MDFR_CD	HCPCS second modifier (not required for inpatient claims)
NCH	LINK_KEY_CWFB_NUM	Uniquely identifies each CWFB claim so that line item records can be linked to the base CWFB record and to other line item records for the same claim

## EXHIBIT 4.6.1 (continued)

DATA SOURCE, DICTIONARY NAME, AND DEFINITION		
SOURCE	DICTIONARY NAME (HISKEW name if not in NCH file)	DEFINITION
NCH	REV_CNTR_CD	<p>Revenue center codes for institutional claims; notably:</p> <p>513 clinic - psychiatric</p> <p>900 psychiatric treatments general</p> <p>901 psychiatric treatments electroshock</p> <p>902 psychiatric treatments milieu therapy</p> <p>903 psychiatric treatments play therapy</p> <p>909 psychiatric treatments other</p> <p>910 psychiatric services general</p> <p>911 psychiatric services rehabilitation</p> <p>912 psychiatric <b>services</b> day care</p> <p>913 psychiatric <b>services</b> night care</p> <p>914 psychiatric services individual therapy</p> <p>915 psychiatric services group therapy</p> <p>916 psychiatric services family therapy</p> <p>917 psychiatric services biofeedback</p> <p>918 psychiatric services testing</p> <p>919 psychiatric services other</p> <p>981 professional fees - psychiatric</p> <p>982 professional fees - outpatient services</p> <p>983 professional fees - clinic</p> <p>984 professional fees - medical social services</p>
NCH	REV_CNTR_NCVR_CHARG_AMT	Amount of <b>REV_CNTR_TOT_CHARG_AMT</b> on institutional claims not covered by Medicare

**EXHIBIT 4.6.1 (continued)**

<b>DATA SOURCE, DICTIONARY NAME, AND DEFINITION</b>		
<b>SOURCE</b>	<b>DICTIONARY NAME (HISKEW name if not in NCH file)</b>	<b>DEFINITION</b>
NCH	REV_CNTR_TOT_CHARG_AMT	Submitted charges for the revenue center code billing period on institutional claims
NCH	REV_CNTR_UNIT_CNT	<p>Number of services provided by the revenue center to the beneficiary during the billing period on institutional claims; depending on the type of service, services are measured by:</p> <ul style="list-style-type: none"> <li><b>1</b> number of covered days in a particular accommodation</li> <li><b>2</b> pints of blood</li> <li><b>3</b> emergency room visits</li> <li><b>4</b> clinic visits</li> <li><b>5</b> dialysis treatments</li> <li><b>6</b> outpatient therapy visits</li> <li><b>7</b> outpatient clinical diagnostic laboratory tests</li> </ul>

In the above exhibit, “institutional claim” is a claim from a facility such as a hospital, SNF, hospice, home health agency, or ambulatory surgery center, for charges associated with services provided by their staff and for overhead charges such as capital equipment, bandages, room and board, etc. A **“CWFB claim”** is a claim from a professional provider such as a physician, psychologist, or social worker, who bills independently for professional services. CWFB claims are also filed by suppliers of durable medical equipment and other supplies covered by Medicare. Finally, “revenue center **codes**” are assigned each cost center for which a separate charge is billed. A cost center is a division or unit within an institution such as an emergency room, outpatient clinic, intensive care unit, etc. to which Medicare costs are allocated for reimbursement purposes.

As stated previously, many of the data items presented in Exhibit 4.6.1 will be grouped to facilitate analysis. For example, beneficiaries will be grouped into mutually exclusive age categories and diagnosis codes will be classified into mutually exclusive groups based on medical similarity. Additionally, some of the variables proposed for the analysis of the evaluation questions, such as entitlement status, must be derived from multiple variables contained in the tracking study database. These mutually exclusive groupings and data derivations (where appropriate) are defined below.

#### AGE GROUPS

- 1 **< 40**
- 2 40-49
- 3 50-59
- 4 **60-64**
- 5 65-69
- 6 70-74
- 7 75-79
- 8 80-84**
- 9 **85+**
- 10 Unknown

## DIAGNOSIS CODE GROUPS (ICD-9-CM, 3rd edition, volume 1)<sup>38</sup>

1	organic mental disorders	290-294, 310
2	substance use disorders	303-305
3	schizophrenic disorders	295
4	paranoid and other non-organic psychotic disorders	297-298
5	affective & personality disorders	296,301
6	anxiety, somatoform, and dissociative disorders	300,308
7	adjustment disorders	309
8	disorders usually first evident in infancy, childhood, or adolescence, excluding mental retardation	299, 307, 312-315
9	mental retardation	317-319
10	other ICD-O-CM identified mental disorders (i.e. sexual deviations and disorders, physiological malfunction arising from mental factors, depressive disorder not elsewhere classified, and psychic factors associated with diseases classified elsewhere such as ulcers, asthma, etc.)	302, 306, 311, 316
11	history of mental disorder, psychosocial circumstances, convalescence, observation, other nonspecific suspected mental disorder (v codes)	v11.0-v11.9, v17.0, v40.0-v40.9, v60.0-v62.9, v66.3, v67.3, v70.1-v70.2, v71.01-v71.09, v79.0-v79.9
12	other diagnosis combined with a <u>mental health</u> : provider specialty, type of service, procedure code, place of service, or revenue center code indicative of mental health services	all other diagnosis codes associated with mental health services

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<sup>38</sup>**Groups** 1-9 are the same as used in the Medicare Mental Health Demonstration Final Report submitted to ASPE and HCFA on February 28, 1985. Groups 1-10 are defined using the first three digits of the **ICD-9-CM** codes. Groups 11-18 is defined using the first three digits of the **ICD-9-CM** code plus the first digit following the decimal point. ICD-O-CM codes are revised on October 1 of each year, and the American Hospital Association publishes a conversion table in Coding Clinic for ICD-O-CM. The table in the fourth quarter issue for 1991 shows no changes in the codes used in this definition since 1986.

## ENTITLEMENT STATUS

- 1 acted disabled but not ESRD - age **65+** and original reason for entitlement was disability without End Stage Renal Disease (ESRD)
- 2 aged and neither disabled nor ESRD - age **65+** and original reason for entitlement was age and current reason for entitlement is age without ESRD
- 3 disabled and neither **aged** nor ESRD - under age 65 and current reason for entitlement is disability
- 4 ESRD - original reason for entitlement was ESRD with or without disability, or current reason for entitlement is ESRD with or without disability
- 5 other - other reason for entitlement or entitlement status unknown

## EVER USER

- 1 received mental health services in any study year
- 2 did not receive mental health services in any study year

## HCPCS PROCEDURE CODE GROUPS<sup>39</sup>

1	psychiatric - clinical diagnostic or evaluative procedures	90801, 90820, 90825, 90830
2	individual psychotherapy	90841, 90843, 90844, 90855
3	group psychotherapy	90846, 90847, 90849, 90853, 90857
4	psychiatric - narcosynthesis,, medical psychoanalysis, electroconvulsive therapy	90835, 90845, 90870, 90871
5	psychiatric - pharmacologic management	90862
6	other psychiatric therapy	90880, 90882, 90887, 90889, 90899

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<sup>39</sup>**HCPCS** is the abbreviation for 'Health Care Financing Administration Common Procedure Coding System'. HCPCS is used by the Medicare and Medicaid programs for claims processing. HCPCS describes physician and non-physician services and supplies. HCPCS includes **CPT-4** codes supplemented by national and local alpha-numeric codes. David Higbee and Regina Walker in the Medical Services Branch at HCFA have informed us of the following changes to the HCPCS codes: Codes **H5010**, H5020, H5025, H5030, **Q0044**, **M0601**, MO039, and MO049 were deleted in 1991. Code MO601 was crosswalked over to CPT code 90830. Before 1991, the use of codes was not uniform across carriers. Before 1989, carriers used their own codes for some procedures. Mel Ingber and Marilyn Newton have told us that HCFA is just completing a data dictionary for all codes used from 1986 to the present. This should be a valuable resource to the evaluator.

7	individual psychiatric therapy by CSW, psychiatric nurse, other non-physician provider	<b>H5010</b>
8	group psychiatric therapy by CSW, psychiatric nurse, other non-physician provider	H5020, <b>H5025</b>
9	other psychiatric services by CSW, psychiatric nurse, other non-physician provider.	H5030
10	brief office visit for the sole purpose of monitoring or changing drug prescriptions used in the treatment of mental psychoneurotic and personality disorders	Q0044, MO064
11	psychological testing services	<b>M0600</b> , MO649
12	activity furnished in connection with partial hospitalization (e.g., music, dance, art, or play therapies that are not primarily recreational)	<b>Q0082</b>
13	outpatient evaluation and management combined with a <u>mental health</u> : provider specialty, type of service, place of service, diagnosis, or procedure	99201-99215
14	emergency room or critical care services combined with a <u>mental health</u> : provider specialty, type of service, place of service, diagnosis, or procedure	<b>99281-99288, 99291-99292</b>
15	services provided at nursing homes combined with a <u>mental health</u> : provider specialty, type of service, diagnosis, place of service, or procedure	99301-99333, MO039, MO049
16	other HCPCS combined with a <u>mental health</u> : provider specialty, place of service, type of service, revenue code, diagnosis, or <b>ICD-9-CM</b> procedure code indicative of mental health services	all other HCPCS codes associated with mental health <b>services</b>



## HCPCS MODIFIER DEFINITIONS”

1 clinical psychologist	AH
2 clinical social worker	AJ
3 technical component only	TC
4 nurse practitioner	QV, QN, AV, AK
5 clinical nurse specialist	QW, <b>QY, AY</b> , AW
6 professional component only	26

## MEDICAID COVERAGE

if Bill Code = public assistance then beneficiary is assumed to be either a QMB or a **dual-**eligible

## MEDICARE EXPENDITURE”

“Medicare expenditure” in the analysis tables refers to payments actually made by Medicare. For some claims and services it will be necessary to examine data on “submitted charges” and “allowed charges” in order to determine actual payments;- Further, since submitted and allowed charges may be of some interest in themselves, it would be wise to include them in the database for the evaluation.

For both institutional and non-institutional claims from late 1990 to the present, the NCHF permits identification of total Medicare payments (**CLM\_PRVDR\_PMT\_AMT** and **CWFB\_PMT\_AMT**; consolidated in 1992 to **CLM\_PMT\_AMT**), and also permits identification of submitted charges (**REV\_CNTR\_TOT\_CHRG\_AMT**, for hospital OPD services by revenue code, codes **900-919** for psychiatric services and 513 for unspecified services in a psychiatric clinic, and **CWFB\_SBM\_TOT\_CHRG\_AMT**, for physician/supplier services). For **non-**

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“All **“Q”** modifiers are temporary. David Higbee and Regina Walker informed us that QN was deleted in 1990 and QV, QW, and QY were deleted in 1991. Kathleen **Weis** informed us that use of these modifiers is not uniform, but can often be correctly inferred by examining other data elements.

<sup>41</sup>The discussion in this section is based on information obtained from **Edye** Fisher, Mel **Ingber**, Marilyn Newton, and Kathy Weiss.

institutional claims, allowed charges, ostensibly prior to reduction for deductibles, copayments, and spending caps, can also be identified (**CWFB\_ALLOW\_CHRG\_AMT**).<sup>42</sup>

For expenditure data prior to late 1990, it may be necessary to consult the Standard Analytic Outpatient File for institutional claims, and the BMAD files for non-institutional claims.

Some of the analyses call for expenditures by service provided. The following pitfalls arise:

- Institutional services. While submitted charges per service in an OPD may be separately observable, payments for psychiatric services can only be derived, at best, because they are one of a class of services for which reimbursement is aggregated and paid at the lower of costs or **charges**.<sup>43</sup> Claims for services in an OPD were also frequently “batched” on a 15 - 30 day cycle; such claims can probably be identified by comparing the number/frequency of services to the magnitude of charges. Prior to October 1991, **OPDs** were not required to use HCPCS codes to identify procedures/services paid at the lesser of costs or charges. Psychiatric services as a class can probably be identified through revenue center codes: however, the **OPDs** had little incentive to be accurate at the level of services.
- Physician/CP/CSW services. For the services of **CPs** and **CSWs** provided incident to those of a physician, there is no unique charge record **since the services are billed as if they had** been provided by the physician; this has remained true even **since CP and CSW services have been explicitly** covered under Medicare. Also, prior to the lifting of the annual cap, charges may not have been submitted when the physician believed that the limit had already been met, thereby eliminating charges for services to high users from the data base.
- Allowed charges. Allowed charges are supposed to be **100%** of what Medicare would recognize, prior to reductions for copayments. Prior to 1989, however, many carriers reported allowed charges that were already reduced for the 62.5% mental health coinsurance rate. In 1989 and 1990, all carriers were instructed to do this and apparently did. Beginning in 1991, however, they were supposed to return to reporting 190%; many did, but some did not. To determine which approach was followed, total reimbursement, and allowed charges by line item should be compared to submitted charges. Allowed charges for outpatient services could also be compared to those for the same

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@There is also a field in the beneficiary program liability file, **BENE\_PTB\_PSYCH\_EXPNS\_AMT**, which refers to the amount of Part B psychiatric expenses incurred by a beneficiary for a particular year; the value of this field is uncertain, however, since the data it would contain became irrelevant with the elimination of the limit on expenditures for psychiatric services in 1990.

<sup>43</sup>**Allowed** charges are not reported, but the special coinsurance rate does not apply to non-physician services provided in an OPD, so this may not be significant.

services to inpatients, since the special coinsurance rate did not apply to services to inpatients.

- **Block pricing.** Since 1991, HCFA has required reporting of payment by line item (i.e., service). Prior to 1991, however, carriers would occasionally and inconsistently aggregate both charges and reimbursements for a claim to the first line/service billed on the **claim**. (This is particularly true for claims processed by carriers from Ohio and West Virginia). Where such ‘block pricing’ has occurred, it may be necessary to evaluate only claims for a single type of procedure or service; it is not known what bias, if any, this will introduce into the analysis.

## MENTAL HEALTH CARE CLAIM

Those claims with any of the following characteristics will be flagged as mental health care claims:

- a. mental health **ICD-9-CM** diagnosis code
- b. provider specialty indicates mental health provider
- c. mental health HCPCS procedure code
- d. mental health **ICD-9-CM** procedure code
- e. type of service indicates mental health care
- f. place of service indicates mental health or rural mental health provider
- g. revenue center codes indicate psychiatric services

## PARTIAL HOSPITALIZATION

Prior to 1992, outpatient hospital claims with revenue center codes indicative of psychiatric partial hospitalization services will be flagged as partial hospitalization claims. Claims with the following characteristics will be flagged:

- a. **PLACE OF SERVICE = 2 AND**
- b. **HCPCS = Q0082 OR**
- c. **REV\_CNTR\_CD = 513, 912 OR 913 AND**
- d. **REV\_CNTR\_CD = 900-919** for services received on the same dates as indicated for **REV\_CNTR\_CD = 513, 912, or 913**

After 1992, outpatient claims with a condition code indicating partial hospitalization services will be flagged (the partial hospitalization condition code was added in 1992).

## PLACE OF SERVICE”

- 1 office
- 2 outpatient hospital
- 3 inpatient hospital
- 4 SNF or nursing home
- 5 mental health, rural mental health
- 6 ambulatory center
- 7 other place

## PRIMARY Payor

- 1 Medicare
- 2 Veteran's Administration (VA)
- 3 PHS or other Federal agency (excluding VA)
- 4 worker's compensation or other liability insurance
- 5 group health plan through employer
- 6 other payor

## PRIOR MENTAL HEALTH CARE

- 1 received mental health services in a prior study year
- 2 did not receive mental health services in a prior study year
- 0 no prior year data available

## PROCEDURE CODES (ICD-9-CM 3rd edition, volume 3)

- |  |   |
|--|---|
| 1 psychological evaluation and testing   | 94.01-94.09   |
| 2 psychiatric interview, consultation, and evaluation  | 94.1 <b>1-94.19</b>   |
| 3 psychiatric somatotherapy  | 94.21-94.29   |
| 4 individual psychotherapy   | 94.31-94.39   |
| 5 other psychotherapy and counseling   | 94.41 - 94.49   |
| 6 referral for psychologic rehabilitation  | 94.51-94.59   |
| 7 other procedure combined with a <u>mental health:</u><br>provider specialty, type of service, HCPCS, or<br>diagnosis | all other procedure codes<br>associated with mental health<br><b>services</b> |

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**“This** variable may be frequently misreported. For instance, physicians who work in clinics may report that the visit occurred in their ‘office’ rather than in the appropriate type of clinic.

## PROVIDER SPECIALTY

The following groups will be used:

- 1 psychiatrist
- 2 non-psychiatrist physician
- 3 clinical psychologist
- 4 other psychologist
- 5 clinical social worker
- 6 other specialty

PROVIDER SPECIALTY groups will be identified using the following data elements:

CWFB\_HCFA\_PRVDR\_SPCLTY\_CD (specialty code)

HCPCS\_INITL\_MDFR\_CD and HCPCS\_2ND\_MDFR\_CD (HCPCS modifier codes)

## PROVIDER TYPE

- 1 physician or solo practitioner supplier
- 2 institutional provider
- 3 clinic (multi-specialty)
- 4 group (single specialty)
- 5 other provider type

## RACE<sup>45</sup>

- 1 black
- 2 white
- 3 other
- 4 unknown

## SEX

- 1 female
- 2 male
- 3 unknown

## SERIOUS MENTAL ILLNESS

Serious mental illness will be identified using **ICD-9-CM** diagnosis codes. We recommend using the Social Security Administration's Master Beneficiary Record to identify beneficiaries disabled because of mental illness and to determine the diagnosis supporting their disability status (see Chapter 5 for more details).

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<sup>45</sup>This is self reported. Kathleen Weis informed us that the number of "unknowns/and others" has been increasing substantially. We do not know how many Hispanics report themselves in the various categories, and the mix of categories reported by Hispanics has probably changed substantially over time.

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#### TYPE OF SERVICE

- 1 psychological therapy
- 2 diagnostic x-ray or laboratory
- 3 medical care
- 4 occupational or physical therapy
- 5 consultation
- 6 surgery
- 7 other type of service

#### URBAN/RURAL LOCATION"

- 1 urban if county located in MSA
- 2 rural if county not located in MSA

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<sup>46</sup>**HCFA** allows some hospitals in rural areas to be classified as urban hospitals. We chose to define this variable by MSA status since we are interested in examining differences in utilization and expenditures in rural and urban areas.

# EXHIBIT 4.6.2

SUMMARY OF PROBLEMS WITH HCFA DATA		
Description of Problem		Section
<b>A. ESTABLISHING THE 5% SAMPLE</b>		
1.	Some Medicare beneficiaries are not continuously enrolled in Part B. Enrollment must be tracked on a monthly basis through information obtained from the Denominator File.	4.2.A
2.	About one percent of HIC numbers change each year, mostly for female beneficiaries. Prior to <b>1991</b> , <b>those who</b> were in the 5% sample were dropped, and their claims cannot now <b>be</b> retrieved.	4.2.A
<b>B. IDENTIFICATION OF MENTAL HEALTH CLAIMS</b>		
1.	Before <b>1991</b> , <b>about</b> five percent of outpatient clinic bills were batched, and it is not always possible to sort out mental health and non-mental health claims.	4.2.A
2.	Mental health visits to non-psychiatric physicians may often not be identifiable.	4.2.B.4
3.	Non-physician specialist claims will not generally be identifiable In years before they were allowed to bill independently. Services incident to those of a physician are an exception, but are often not identifiable on clinic bills.	4.2.B.5
<b>C. SPECIFIC VARIABLES</b>		
1.	ICD-9-CM diagnoses codes: <ul style="list-style-type: none"> <li>Physicians were not required to report codes before 1991.</li> <li>Currently, physician offices do their own coding and no attempt has been made to validate their coding (e.g., by comparison to procedure codes).</li> </ul>	4.2.B.7
2.	HCPCS procedure codes: <ul style="list-style-type: none"> <li>Use of the codes is not uniform across carriers.</li> <li>Substantial changes were made In 1999 and 1991.</li> </ul>	4.2.B.7 4.6
3.	HCPCS modifiers: <ul style="list-style-type: none"> <li>Use of the modifiers is not uniform across carriers.</li> <li><b>"Q"</b> modifiers are temporary and many were dropped in <b>1991</b>.</li> </ul>	4.6 4.6
4.	Race: This variable is self-reported and may be unreliable.	4.6
5.	Medicare expenditures: <ul style="list-style-type: none"> <li>Submitted charges prior to the lifting of the annual limit will be understated because claims may not have been filed if the patient had exceeded the limit.</li> <li>Allowed charges may erroneously end Inconsistently reflect reductions for <b>the special</b> mental health cost sharing, even since 1991, when carriers were directed to stop this practice.</li> <li>Prior to 1991, expenditures for mental health services provided by <b>institutions will</b> be difficult to separate from other expenditures due to 'batch billing.</li> <li>Services provided by a CP or CSW that are incident to a physician's services are billed as if they were <b>provided</b> by the physician.</li> <li><b>Prior</b> to 1991, carriers often reported both charges and reimbursement by claim for multiservice claims, <b>rather</b> than by <b>service</b>.</li> </ul>	4.2.B.6 4.6 4.6
6.	<b>Place</b> of service: <b>This</b> variable <b>may</b> be <b>frequently</b> misreported.	4.6





## CHAPTER 5

### SUPPLEMENTAL DATA SOURCES

#### 5.1 Introduction

As discussed in Chapter 4, we recommend that a study be conducted using HCFA claims data to track mental health utilization over time and to answer specific evaluation questions and analysis topics. In this chapter, the potential for using supplemental data to help answer some of the evaluation questions and analysis topics presented in Chapter 4 is assessed. We have considered what types of data and analyses would be most helpful, given the deficiencies of the tracking study, and have investigated the characteristics of major health surveys, data on prescription drug utilization from Pennsylvania's PACE program, and data on disability status from the Social Security Administration's Master Beneficiary Record (MBR), and Medicaid data.

Our work to date suggests that, with the exception of the MBR and PACE data, these data are of limited value to the Medicare Mental Health evaluation. The most serious limitation of the surveys is that they typically include only a small number of Medicare beneficiaries who actually received mental health services, although they do include larger numbers of Medicare beneficiaries who reported mental health problems when asked about mental health status. Another serious problem is the long lag time between the completion of some surveys and the availability of the data. This problem is especially relevant to surveys that were recently conducted or are scheduled for the early 1990s. The Medicaid data would be useful in determining the effects of the benefit expansion on the relatively few Medicare beneficiaries who are either 'dual eligibles' or **"QMBs"** and are also interesting because they include extensive information on prescription drug purchases by these beneficiaries.

One area where the survey data would be especially useful, and where sample size would be less of a constraint, is in measuring unmet need. Estimates of mental health status could be compared to estimates of mental health care utilization to identify unmet need among Medicare beneficiaries. Another area where the survey data would be particularly helpful is in comparing mental health care utilization as reported in survey data to mental health care utilization as reported in HCFA claims data.

These reasons, and others, for analyzing national health survey data, PACE data, MBR data, and Medicaid data are discussed in the next section. In Section 3, we examine the characteristics of each data source and the potential usefulness of each. In Section 4, we describe our recommendations for supplementing the tracking study described in Chapter 4 with information from supplemental data sources.

## 5.2 Reasons for Analysis of Supplemental Data

The HCFA claims data do not include all of the information we would like to have for the evaluation. One important question that supplemental data would be very useful for answering is what proportion of mental health services received by the Medicare population, as reported in survey data, are included on identifiable mental health claims, especially during the early years of the tracking study? We are particularly concerned that mental health services provided by independent nonphysician providers and by partial hospitalization programs will **be missing** in the claims data. In addition, prior to the removal of the annual limit, claims may not have been filed for services received by beneficiaries who had reached the limit. We also think that it will be difficult to correctly classify claims as mental health claims since providers have an incentive to code mental health services as non-mental health **services** due to the lower coinsurance for the latter. The survey data would be useful for comparing utilization rates as reported in the surveys to utilization rates as captured in the HCFA claims data. These utilization rates would give some indication of the extent of underreporting in the claims data and whether underreporting has diminished since the expansion of Medicare mental health benefits.

Another important area where the supplemental data would be especially useful is measuring unmet need. Estimates of mental health status could be compared to estimates of mental health care utilization to identify unmet need among Medicare beneficiaries. The supplemental data could also potentially be used to determine whether Medicare mental health policy changes lead to a reduction in unmet need.

The HCFA claims data also do not include the following information, which is included in some other data sources: (1) **secondary payor** (e.g., Medicaid and private Medi-Gap insurers); (2) use of psychotropic drugs; (3) reason for disability for disabled beneficiaries, particularly whether they are mentally disabled versus physically disabled; and (4) measures of psychological well-being and/or need for mental health services that are unrelated to actual utilization of mental health care. This information would be useful in answering some of the evaluation questions and is of general interest to policy makers.

Another reason, for analyzing supplemental data is to examine changes in the utilization of mental health services by non-Medicare groups. This would help determine what portion of changes in the Medicare population's use of mental health services, as observed in the tracking study, can be attributed to the Medicare policy changes. Examination of changes for non-Medicare groups would provide information about how utilization among the Medicare population would have changed in the absence of the policy changes. The two groups that would **be** of most interest are the near elderly, and disabled persons who are not Medicare beneficiaries. The primary problem with analysis of data for non-Medicare groups is that changes in their utilization of mental health benefits might reflect changes in macro factors that did not affect Medicare beneficiaries. Therefore, we recommend studying non-Medicare groups only secondarily to an otherwise planned analysis of the Medicare population. If the Medicare analysis is to be done anyway, the additional cost of this analysis would be minimal, and there would be few, if any, comparability problems due to differences in data definitions and collection methods.

These data could also prove useful for estimation of behavioral responses to changes in various features of Medicare mental health benefits if variables that affect the prices paid by the elderly in different areas of the country can be identified. An example of such a study is provided in **Chapter 6**. **Finally, some supplemental data** sources can be linked to **the HCFA claims data, as has already been done** for the New Beneficiary Survey and the PACE data.

### 5.3 Description of the Supplemental Data

The attributes of ten health care surveys (also see Exhibit **5.3.1**), the PACE data, the Master Beneficiary Record, and Medicaid data files are detailed below.<sup>1</sup> The data sources are categorized by the periods for which data were collected relative to the first year that changes were made to the Medicare mental health benefit (i.e. 1987). Data collected both before and after 1987 are classified as 'continuing'. Those sources with data for years prior to 1988 are referred to as 'before' sources, and the most recent sources are **labelled** as "after".

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<sup>1</sup>The information in this section was compiled from the following sources: **Lewin-ICF** (1991); **Regier**, Boyd, Burke, et al (1988); **McMillen**, Taeuber, and Marks (1985); **Medicare Carriers Manual**, Chapter 3, section 13001; Professor Bruce Stuart of the Pennsylvania State University Department of Health Policy and Administration; and Jack **Schmulowitz** of the **Social Security Administration**.

## A. “Continuing” Data Sources

### 1. Survey of Income and Program Participation

The Survey of Income and Program Participation (SIPP) is a longitudinal survey that has been conducted on an on-going basis by the Census Bureau since 1984. At the beginning of each calendar year, a new sample (‘panel’) of households is selected and the household’s members are followed for approximately 32 months. Every member of a sample household is followed for the entire survey period even if the member moves out of the household (unless the member becomes institutionalized). Additionally, persons who move into the household after the start of the survey are also included in the survey from the date they enter the household. Core information (e.g. income, labor force participation, public program participation, health insurance coverage, age, sex, household and family composition) is collected for every month of the survey period, however, data on health status and service utilization is collected only once during the 32 month survey period. There is, however, overlap of panels for the health status questions. For example, the 1985 and 1986 panels were both asked health questions in the Fall of 1986. Consequently, health data for multiple panels could be pooled to increase the sample size, and **SIPP** could be used to track mental health status and utilization over time.

In the 1984 **SIPP** panel, which was the largest panel, there are about 6,000 sample cases aged 65 and above. In the 1986 **SIPP** panel, which was substantially smaller than the 1984 panel, the number of persons age 65 and over who were asked the health status questions is about **2,700.**<sup>2</sup> As discussed in Chapter 4, HCFA records show that about 2.25% of all Medicare beneficiaries filed an outpatient mental health claim in **1988.**<sup>3</sup> HCFA data also

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<sup>2</sup>**SIPP** respondents were divided into 4 groups known as ‘waves’. Only 3 of the waves were asked the health status questions in the 1986 panel, whereas all 4 waves were asked the health status questions in the 1984 panel.

<sup>3</sup>**This** is a lower-bound estimate of mental health care utilization for two reasons: (1) the definition of mental health service was not as inclusive in the HCFA estimates as it would be in the tracking study and as it has been in other studies, and (2) only services for which a Medicare claim was filed are included. Preliminary data from the 1987 National Medical Expenditure Survey (NMES) indicate that 17 percent of elderly females and 9 percent of elderly males had some type of mental health care utilization (see, Freiman et al. 1992). Therefore, we expect that, as a lower bound estimate, at least 2.25 percent of elderly and **SSDI** Medicare beneficiaries included in survey data would report mental health care utilization, and that, as an upper bound estimate, about 14 percent of elderly beneficiaries would report mental health care utilization (the non-elderly disabled were not included in the

indicate that for every 9 elderly Medicare beneficiaries there is 1 non-elderly disabled beneficiary. Hence, we expect the number of **SSDI** Medicare beneficiaries to be approximately 670 (i.e.,  $6,000/9$ ) in the 1984 panel and about 300 (i.e.,  $2,700/9$ ) in the 1986 panel. The number of Medicare covered persons in the 1984 panel who received mental health services during a particular year would be approximately 150 (i.e.,  $((6,000 + 670) \times .0225)$ ). The number of Medicare covered persons in the 1986 panel who received mental **health services** during a particular year would be approximately 68 (i.e.,  $((2,700 + 300) \times .0225)$ ). These persons will be roughly equally divided between aged and disabled Medicare beneficiaries. The number of Medicare beneficiaries who report a mental health condition in the **SIPP** is expected to be substantially larger than the number who received mental health services because, as explained in Chapter 3, many persons in need of mental health care do not receive services either because they do not seek care or because providers dismiss the mental health problems of the elderly as unavoidable effects of aging.

Although **SIPP** includes general health status, utilization, and insurance coverage data, it does not identify health conditions, including mental disabilities, because questions are not asked about specific health conditions or diagnoses. Given the lack of information on mental health status and services, **SIPP** would only be useful to the Medicare Mental Health evaluation if information on supplementary insurance coverage for Medicare beneficiaries is not available in other data sources being used for the evaluation. Since this is unlikely given the attributes of other supplemental data sources discussed below, we do not recommend **SIPP** for the Medicare Mental Health evaluation.

## 2. National Health Interview Survey

The National Health Interview Survey (NHIS). This survey has been conducted by the National Center for Health Statistics annually since 1957, and is a nationally representative household survey of between 92,000 and 125,000 noninstitutionalized persons. Although more than 15,000 elderly respondents are included in the sample each year, the **NHIS** only gathered data on mental health status and services in 1989, when the survey included a mental health supplement. The 1989 National Health Interview Supplement on Serious Mental Illness includes mental health: diagnoses, functional limitations, duration of mental illness, provider type, and prescription medication information for 113,000 seriously mentally ill

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NMES estimates, therefore, we do not know what the upper bound limit would be for this group although it is most likely at least as high as for the elderly).

noninstitutionalized **persons**.<sup>4</sup> Persons reporting only substance abuse disorder or mental retardation were not included in the seriously mentally ill population; all other diagnoses were included. Furthermore, disability was defined through a series of functional limitation questions as well as through questions about receipt of government disability payments. Disability is defined, therefore, more inclusively than the SSI or **SSDI** definition and, in fact, only about one-third of the seriously mentally ill reported receiving a government disability payment.

We estimate that about 14,000 survey respondents are elderly. Approximately 80 percent of the respondents reported visiting a mental health professional for their disorder. Of the remaining 20 percent, 65 percent visited another type of professional for the disorder. Based on these statistics, we expect a very large sample of elderly and non-elderly disabled Medicare beneficiaries reporting mental health care utilization.

The primary drawback to using these data is that the survey was conducted in the middle of the Medicare policy change period. These data are, however, an excellent source of mental health status information for the elderly and disabled because of the large sample size. The data are also a good source of demographic information, including age, sex, marital status, income, insurance coverage (including Medicaid and Medi-Gap coverage), and **SSDI** reciprocity, that might be correlated with mental illness and mental health care utilization. The data could also be used to identify the types of providers visited for mental health care and to compare Medicare and non-Medicare populations. **Other** important potential uses of the **NHIS** data would be to analyze the prevalence of psychotropic medication prescriptions among persons reporting a mental illness, and the effect of **Medi-Gap** and Medicaid coverage on mental health care utilization.

### 3. **National Long-Term Care Survey**

The National Long-Term Care Survey (NLTCS) was conducted by the National Institute on Aging with assistance from HCFA and ASPE in 1982, 1984, and 1989 and is currently being conducted for 1992, and is expected to be conducted every four years after 1992. The survey is a longitudinal and cross-sectional sample of Medicare beneficiaries with chronic disabilities (this is not coextensive with **SSDI** beneficiaries). The **1989** version includes more than 7,000 persons aged 65 and older. **Information** on service utilization prior to the Medicare

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<sup>4</sup>**Serious** mental illness was defined along three dimensions: diagnosis, disability, and duration of disability.

changes can be obtained from the **1982** and 1984 versions of **NLTCS**, and utilization can be tracked using the 1989 and 1992 versions of the survey. Additionally, the data can be matched to HCFA claims data.

The survey includes measures of mental health status, as well as demographic data such as age, sex, race, marital status, income, and insurance status. The survey also includes information on the number of times the beneficiary visited a mental health **or other** health care professional during the past month, the principal diagnoses rendered by the provider, and the sources of payment and out-of-pocket expenses for mental health and other health care services. These data could be a valuable supplement to the tracking study particularly because they can be matched to the HCFA claims data. These data would be most useful for analyzing demographic characteristics and insurance status for the chronically mentally disabled, and to estimate out-of-pocket expenses for this group. The chronically mentally disabled are major beneficiaries of the recent expansions in Medicare Part B mental health payment policy because they will benefit from the expansions over a longer period of time than the non-chronically mentally ill. Consequently, profiling the chronically mentally ill is important to understanding the effect of the Part B changes on the Medicare population.

Finally, as discussed in Chapter 4, 2.25% of all Medicare beneficiaries file mental health claims in a given year (based on 1988 claims data). This proportion is, however, heavily influenced by claims filed by the non-elderly disabled who are much more likely to receive mental health services than are the elderly (see Chapter 3). Offsetting this is the likelihood that the chronically disabled elderly receive more mental health services than other elderly. Hence, these data are likely to include a sufficiently large sample of chronically disabled elderly receiving mental health services to analyze the effects of Medicare Part B policy changes on utilization of mental health services by chronically disabled Medicare beneficiaries, both elderly and non-elderly.

#### 4. **Longitudinal Client Survey of Outpatient Programs**

The Longitudinal Client Survey of Outpatient Programs, 1984 to 1990, is a recent **NIMH** survey that details publicly provided outpatient mental health services. The data include information on facility type, provider type, drug therapy, and level of functioning. Diagnoses are also provided. We are seeking further information about this survey. **NIMH** has not yet received all responses and, therefore, does not know final samples sizes for the 1990 survey. Additionally, we do not know the definition of the sampling frame or whether this survey will be continued after 1990.

## 5. PACE

The PACE program covers expenditures on prescription drugs purchased by lower income elderly in Pennsylvania who are not eligible for prescription coverage under Medicaid. About **50** percent of the elderly in Pennsylvania are eligible for the program, and about 25 percent of the elderly in Pennsylvania participate in the program. The PACE data can be matched to HCFA claims data: in fact, data for 18,000 participants from 1984 to 1990 have already been linked to MEDPAR, BMAD, and **HISKEW** data. There are no current plans to match data after 1990 to the HCFA data, however. Another attractive feature of the PACE data is that the program has experienced only minor changes in eligibility and benefits since its inception. Therefore, any trends in psychotropic drug use identified in the data would not be caused by changes in the PACE program and could be traced to other factors, such as the Part B policy changes, with some confidence.

The PACE data would be especially useful to the Medicare mental health evaluation because, as explained in Chapter 4, the HCFA claims data do not include information on drug use. An important objective of the evaluation is to determine whether the utilization of psychotropic drugs has changed since the liberalization of benefits. One hypothesis is that the reduction in the copayment rate for management of psychotropic drugs has increased their use. This change might also have encouraged users of psychotropic drugs to switch from using general physicians (who were consulted in order to avoid the extra copay for mental health care) to psychiatrists. At the same time, the removal of the annual limit on outpatient benefits and the extension of coverage to independent nonphysician providers may have encouraged substitution of psychotherapy and other types of therapy for psychotropic drugs. The PACE data are a promising source of information for analyzing these possible effects.

## 6. Master Beneficiary Record

The Master Beneficiary Record (MBR) includes information on the reason for **SSDI** eligibility as well as a secondary diagnosis, if any. These data can be matched to HCFA claims data so that beneficiaries who are, or were in the past, disabled due to mental illness can be **identified**.<sup>5</sup> Unfortunately, the reason for disability is not coded for most beneficiaries who were disabled prior to 1984, when SSA first started adding this information to MBR

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<sup>5</sup>SSA uses its own classification system, which aggregates ICD-O-CM diagnoses into approximately 100 'impairment' categories.



records. Approximately **15-20** percent of **SSDI** beneficiaries are not classified.<sup>6</sup> The **MBR** also includes information about Supplemental Security Income, other third party payors, and **ethnicity**, which are not available in the HCFA data. All of this information would be **very** useful for the evaluation of the effects of the expansions of Medicare mental health benefits on **SSDI** beneficiaries. These data can also be used to analyze **SSDI** beneficiaries disabled due to mental illness but who did not receive services under the Medicare program during a particular study year.

## 7. Medicaid Claims Data

Medicaid claims data are of interest because of the existence of dual eligibles and **QMBs** who receive both Medicaid and Medicare benefits. As discussed in Chapter 4, identification of these groups is problematic in the Medicare data, and Medicaid expenditures associated with Medicare claims are not reported. As discussed in Chapter 3, the effects of the changes in Medicare's Part B mental health benefits on these groups may be quite different than those on other Medicare beneficiaries because of the way that the two programs interact. Depending on how large these groups are, it may be desirable to do separate analysis of the changes in utilization and expenditure for these groups over the study period. An additional reason for examining these groups is that, as discussed below, prescription drug purchase data are available in Medicaid claims data because each state's Medicaid program has had a prescription drug benefit over the entire study period, with two exceptions. Analysis of these data might allow the evaluator to assess the extent to which drug therapy is being used by these beneficiaries under the supervision of general physicians and how use of drug therapy has changed with the reduction in the copayment rate for drug management from 50 percent to 20 percent.

Medicaid claims data are collected by each state through its Medicaid Management Information System (MMIS). These systems vary across states and the data are not kept in a centralized location; thus, it is difficult to do nationwide analyses of Medicaid data. The only easily accessible source of nationwide data is **HCFA's** '2082' file, which includes summary information reported to HCFA by each state on a form that is numbered 2082. HCFA has

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<sup>6</sup>Jack Schmulowitz of SSA has told us that to actually match the data, the evaluator should submit a request to SSA, through ASPE, to obtain the information. Approximately 10 percent of beneficiaries who are not classified in the MBR can be classified by matching their records to records on a 10 percent research file that is maintained by **SSA's** Office of Research and Statistics.

launched two major efforts to collect extensive, comparable state data and make it available for administrative and research use. In addition, the Food and Drug Administration (FDA) is developing a Medicaid prescription drug data base.

The first of the HCFA data bases, Medicaid Analysis Project for States (MAPS), was designed to serve as a research data base.<sup>7</sup> Until recently this project was called the Medicaid Tape-to-Tape Project, and that name is still commonly used. HCFA began gathering **MSIS** data for the project from five states in 1980: California, Georgia, Michigan, New York, and Tennessee. Annual data from 1980 to the present are available for the first three states, but New York dropped out after 1982 and Tennessee did not participate in one year. The data include demographic characteristics, eligibility classifications, services received, diagnosis, type of provider, site of service, Medicaid cost, Medicare deductible and coinsurance payments, other insurance coverage, and prescription drug purchases.

**HCFA's** second effort to collect extensive state data is the Medicaid Statistical Information System (**MSIS**).<sup>8</sup> HCFA began collecting **MMIS** data from 10 states for this project in 1985; the number of participating states increased to 19 in 1986 (the first year to be included in the tracking study) and since has increased to 25. Information in this data base is similar to the information in the MAPS data base. Relative to MAPS, **MSIS** has the advantage of covering more states, but the disadvantage of poorer comparability of data across states.

It should be noted that the drug purchase data in both of these data bases are not directly related to claims from physicians. The only way to match drug purchases to physician visits is by comparing dates from pharmacy claims to those from physician claims, and this is very unreliable.

The FDA is developing a data base called the Computerized On-line Medicaid Pharmacy Analysis and Surveillance System (COMPASS) that includes prescription drug

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<sup>7</sup>The discussion in this paragraph is based on HCFA (1991).

<sup>8</sup>The discussion in this paragraph is based on an unpublished HCFA overview of the project, dated April 15, 1992. Cherlow et al. (1991) provide an assessment of the quality of the **MSIS** data.

information **abstracted from** state **MSIS** files for 1980 to the present.<sup>9</sup> Currently data from 12 states are in various stages of development. Preliminary analysis of the data from Michigan indicate that about one-third of aged Medicaid patients receive antipsychotics. COMPASS includes only very limited information beyond type of drug purchased and date purchased. Age, sex, and race of the patient are included, but expenditure is not. The user of COMPASS can very easily construct a history of drug purchases for an individual.

## **B. “Before” Data Sources**

### **1. Current Medicare Survey**

The first of the “before” studies examined here is the Current Medicare Survey (CMS), which was conducted monthly from 1986 through 1980 by the Census Bureau. This survey collected information on the utilization and costs of medical services received by Medicare beneficiaries. The CMS supplies specific information on provider specialty and diagnosis. The sample consists of 4,800 Part B enrollees, which is relatively small and could include fewer than 120 mental health users, roughly equally divided between the aged and the disabled. Another problem with these data is that the last year they were collected (1980) was seven years prior to the first policy change. Given the small sample size and the age of the data, we do not recommend using the CMS for the evaluation.

### **2. Epidemiological Catchment Area Program**

The **NIMH** Epidemiological Catchment Area Program (ECAP) surveys were conducted from **1980-1984**. ECAP gathered data from five sites, each of which contributed between 3,004 and 5,034 respondents for a total sample size of 18,571. Oversampling of the elderly at three sites increased the proportion of respondents aged 65 to thirty percent of the total sample, or about 6,000 persons. Assuming a **9:1** ratio of elderly Medicare beneficiaries to non-elderly disabled Medicare beneficiaries applies, there are approximately 670 disabled Medicare beneficiaries in the ECAP data.

The data include self-reported diagnoses, plus measures of “clinically significant” behavioral changes caused by mental or physical disorders. A major problem with these data,

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<sup>9</sup>The information in this paragraph is based on a presentation given by Dr. Carlene Baum of the Epidemiology Development Branch in the **Office** of Epidemiology and Biostatistics of the FDA.

however, is that they are not nationally representative. Furthermore, there are no plans for future surveys. Finally, because the ECAP data have been thoroughly analyzed and **written-** up by researchers, valuable information from the ECAP data can be obtained without tabulating the data specially for the Medicare Mental Health evaluation (see Chapter 3). Consequently, we recommend including summaries of relevant ECAP literature to supplement the evaluation, but do not recommend analyzing the raw data.

### 3. New **Beneficiary** Survey

The New Beneficiary Survey (NBS) was conducted in late 1982 by the Social Security Administration. The national sample included 17,155 new Social Security beneficiaries, plus 1,444 Medicare beneficiaries who were eligible for Social Security but did not receive it at the time. Nine thousand elderly persons responded and, although respondents were queried on the incidence of mental health conditions, mental health services and diagnoses are not identified. A follow-up of surviving NBS beneficiaries was conducted during winter 1990 and spring 1991, **so** limited longitudinal analysis could also be undertaken. The number of persons with mental health claims in the 1982 sample would be, at a minimum, approximately 420 if the proportion with mental health claims is roughly equal to the proportion of Medicare beneficiaries in 1988 with mental health claims (i.e. 2.25%). The number could be smaller, however, since these are new beneficiaries, who are younger than the average Medicare beneficiary and, therefore, less likely to have mental illnesses associated with aging. Furthermore, the follow-up of survivors will obviously include fewer respondents because of death or other reasons for non-response.

The NBS data have been linked to the HCFA claims data, so it is possible to identify mental health services and related diagnoses for which a Medicare claim was filed in addition to using the mental health status and diagnosis information collected in the survey. The advantages of using the NBS data, rather than HCFA claims data alone, accrue from the availability of **information** concerning mental health status as well as demographic information about the beneficiaries, such as income and marital status, that are not in the HCFA data.

### 4. National Medical Expenditure Survey

The National Medical Expenditure Survey (NMES), conducted by the Agency for Health Care Policy Research (AHCPR) in 1987, included 6,295 noninstitutionalized elderly respondents. NMES is the 1987 version of the 1977 National Medical Care Expenditure Survey (NMCES) and the 1980 National Medical Care Utilization and Expenditure Survey

(NMCUES).<sup>10</sup> NMES contains data on diagnoses; limited information on social and psychological functioning; health care utilization and expenditures; insurance coverage; demographic information such as age, marital status, and income; access to care; mental status; and prescription medication utilization. Additionally, the Institutional Population Component of NMES contains comprehensive data for institutionalized persons. Another expenditure survey in the **NMCES/NMCUES/NMES** line is planned for 1996.

Preliminary estimates from the NMES survey indicate that 17 percent of elderly females and 9 percent of elderly males had some type of health care utilization that was related to mental health problems.” A total of 789 elderly respondents had utilized mental health care. There will also be substantially more respondents who report mental health problems but who do not report receiving mental health care. Consequently, these data could be used to measure unmet need as well as to analyze the characteristics of Medicare beneficiaries who report mental health expenditures, measure access, and analyze psychotropic drug utilization.

#### **C. "After" Data Sources**

##### **1. Client/Patient Sample Survey of Inpatient, Outpatient and Partial Care Programs**

The ‘after’ studies include the 1990 Client/Patient Sample Survey of Inpatient, Outpatient and Partial Care Programs conducted by **NIMH** which contains information about mental health services. Unfortunately, the sample contains fewer than 150 Medicare beneficiaries most of whom would not have received mental health care. Therefore, we do not recommend use of this data source for the evaluation.

##### **2. Current Beneficiary Survey**

The Current Beneficiary Survey (CBS) is a longitudinal and cross-sectional study of aged and disabled Medicare beneficiaries, both institutionalized and noninstitutionalized. The same sample of beneficiaries will be contacted every four months for several years, with new cross-sectional samples being selected so that the survey is conducted on a continual basis

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<sup>10</sup>Horgan (1985) analyzes the use of ambulatory mental health services using the NMCUES data.

<sup>11</sup>Freiman et al. (1992).

beginning in 1991. **The** CBS also includes one of the largest samples of Medicare beneficiaries (nearly 13,000 persons aged 65 and older plus 2,501 disabled) of all data sources examined for this chapter. At the very least, we would expect about 350 beneficiaries with mental health claims.

The CBS includes data on mental health status (respondents are questioned about mental retardation, Alzheimer's disease, dementia, mental/psychiatric disorders); cost of health care services; out-of-pocket expenses; prescribed medicines; diagnoses; plus demographic information such as marital status, insurance coverage (including Medi-Gap and coverage), and income. information on mental health services is quite detailed. For example, respondents are asked how many times they went to a hospital clinic or outpatient department for psychotherapy/mental health counseling, and the purpose of any home health visits they received including psychotherapy/mental health counseling. Data elements also include provider specialty, facility type, main reason for visit, and number of visits.

The CBS would be an excellent source of data on mental health care utilization. Furthermore, the survey collects information specifically on Medi-Gap and coverage. The tracking study does not include information on secondary **payor** coverage and it would be particularly useful to obtain information on Medi-Gap coverage among persons receiving mental health care. The data on mental health care utilization would also be useful for assessing the results of the tracking study. The data on prescription medication could be valuable depending upon the number of respondents who report use of psychotropic drugs, because data on psychotropic drug use is scarce. Finally, the data could be matched to the HCFA claims data to further examine the use of mental health services by the respondents.

#### 5.4 **Recommended Use of Supplemental Data Sources**

The PACE data and the MBR data should both be used for the Medicare Mental Health evaluation. The PACE data provide unique and valuable information on prescription drug use that is essential to addressing the issue of whether the use of psychotropic medications has changed since the Part B mental health payment policy expansions. Additionally, the PACE data are longitudinal, spanning years prior to the implementation of the policy changes to the present (i.e., 1964-I 992). Another attractive feature of the PACE data is that it can be matched to the HCFA claims data and has already been matched to some HCFA data through 1990 (BMAD and MEDPAR).

We **recommend** that a five percent sample of MBR records be selected for each year of the tracking study's period (planned to be 1986 to 1994). Selection should be by HIC numbers, which can be matched to social security numbers (**SSNs**), using the same values of the last two digits as for the HCFA data. This sample would include many individuals who had been **SSDI** beneficiaries for less than two years and therefore were not eligible for Medicare benefits. These individuals should be included because we would like to know as much as possible about the history of **SSDI** beneficiaries, before they become eligible for Medicare. For instance, information about other insurance and about attrition among mentally ill **SSDI** recipients vs. among other **SSDI** recipients during the first two years of **SSDI** reciprocity will be of **interest**.<sup>12</sup>

Further consideration should be given to analysis of the Medicaid data bases (MAPS, MSIS, and COMPASS) once the tracking study and the analysis of the PACE data have been completed. The latter studies should reveal whether further study of dual **eligibles/QMBs** and of drug use are worth the additional effort. Some consideration should also be given to matching Medicare data files to the Medicaid data bases; our understanding from HCFA is that this is possible with their files, but has not been attempted in a major study to date. We did not ascertain whether this is possible with the COMPASS data, but we would be surprised if it were not.

We do not recommend using any of the survey data described above in the current Medicare mental health evaluation, but use of some of the data to supplement the current evaluation should be reconsidered upon completion of the current evaluation. Survey data to be considered further include: **NHIS** Supplement on Serious Mental Illness, the New Beneficiary Survey, NMES, the Current Beneficiary Survey, and the National Long-Term Care Survey. Additionally, the Longitudinal Client Survey of Outpatient Programs looks promising but needs to be investigated further. All of these recommended data sources could add valuable information to the evaluation. The **NHIS** is attractive because of its focus on mental illness, large sample size, **information** on secondary payors including and Medi-Gap, data on mental health care utilization, prescription drug information, and its potential for **comparing** Medicare to non-Medicare populations and measuring unmet need. The NLTCS would be helpful because of its **focus** on persons with chronic disabilities; its ability to be matched to HCFA claims data: the longitudinal design; and information on mental health status, visits, expenditures, and insurance coverage. The New Beneficiary Survey could be useful because it can be linked to HCFA claims data, although the sample size of mentally ill persons is likely

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<sup>12</sup>See Bye et al. (1987) for an example of a similar match between SSA and HCFA data.

to be small, and the respondents were not asked specifically about diagnoses or health services. NMES would be helpful because of its comprehensiveness, its large sample of elderly persons who reported receiving mental health care, its information on expenditures and utilization (including drugs), its potential for measuring unmet need, and the possibility of comparing Medicare to non-Medicare populations. Finally, the Current Beneficiary Survey would be useful to the evaluation because it is an excellent source of data on mental health care utilization, it includes information on Medi-Gap and coverage as well as data on prescription medication, and the data could be matched to HCFA claims data. The remaining survey data -- from SIPP, the Current Medicare Survey, ECAP, and the Client/Patient Sample Survey of Inpatient, Outpatient and Partial Care Programs -- should not be considered further. Note, however, that published analyses of the ECAP data provide information that will help interpret the findings of the evaluation (see Chapter 3).



Survey	Date(s)	Sample Frame	Insurance Status Given?	How many elderly/Medicare patients in sample?	Predicted # of Mental Health Visits <sup>3</sup>	Are mental health services identified?	Are diagnoses given?	Are there measures of mental health?	Next planned study
National Medical Expenditure Survey (NMES) <sup>1</sup>	conducted in 1987, also 1980 (NMCUES) and 1977 (NMCES)	15,130 households/ 38,400 individuals; elderly, persons in poverty, Blacks, Hispanics, & functionally impaired oversampled.	Yes	8,295 persons aged 65+ in sample	789	IPC component includes info on provider site, facility characteristics for mental health services.	Yes	There are measures of social and psychological functioning.	1996
National Health Interview Survey (NHIS) <sup>2</sup>	conducted annually since 1957	38,000 to 47,000 households / 92,000 to 125,000 persons sampled each year (nationally representative)	Insurance status identified periodically	ages 85-74: 9,288 age 75+: 5,839  Total 65+: 15,125	-380	No	Self-reported diagnoses	Mental status not included	NHIS is a continuous annual study.
National Health Interview Supplement on Serious Mental Illness	1989 (topical module)	113,000 persons sampled (from the non-institutionalized seriously mentally ill population)	Yes	14,000 persons aged 65+ (estimate); perhaps as many SSDI	14,000 (SSDI: unknown, but large)	Info on the following is given: (1) type of mental health provider last seen; (2) prescription medication;	Diagnoses given for mental disorders prevalent in the 12 months prior to interview	Measures of mental health include functional limitations, duration of disability	???
Survey of Income and Program Participation (SIPP)	conducted every year since 1984 on a monthly basis	A new sample, or panel, is introduced in February of each year. Each panel consists of ~ 15,000 households (32,000 persons).	Yes	In the first interview of the 1984 SIPP panel, there are: 3,500 sample cased aged 85 to 74 and 2,300 aged 75+	-150	No	No	Measures of mental status are included.	SIPP is a continuous survey.
National Long-Term Care Survey (NLTC) <sup>2</sup>	conducted in 1982, 1984, 1989	114,145 persons screened (representative sample of Medicare eligible): 5,934 community disabled 1,890 institutionalized 2,475 decedents	Medicare, Medicaid status available for community disabled	1989 sample included 2,285 persons aged 75+ found to be non-disabled in 1984 Survey and 5,000 persons who reached age 85 since 1984 Survey	unable to estimate	Diagnostic services/ procedures constructed from Medicare billing data.	???	Measures of mental status are included.	Planned for 1992 and every 4 years thereafter.
National Health Care Survey (NHCS)	replaces the following 4 surveys: NHDS (annual) NNHS (1985) NAMHCS (annual) NMF1 (1988)	NHDS: 233,000 (1989) NNHS: 11,288	insurance status not indicated	???	unable to estimate	Health services not identified.	Diagnoses given only in long-term care component	Mental health ratings for current long-term care residents.	Will be conducted annually by 1994.

<sup>1</sup> In addition to listed information. NMES contains service charge data (by source of payment) and prior visit status information for medical provider and hospital outpatient visits.

<sup>2</sup> These surveys contain expenditure information.

<sup>3</sup> An estimate of the number of mental health visits by Medicare enrollees in the sample is computed by dividing the number of persons in the sample aged 65+ by the proportion of Medicare enrollees who are 65 and over (90% in 1988), and then multiplying the result by the ratio of Part B mental health claims to Medicare enrollees (2.25% in 1988).

Survey	Date(s)	Sample Frame	Insurance Status Given?	How many elderly/Medicare patients in sample?	Predicted # of Mental Health Visits <sup>2</sup>	Are mental health services identified?	Are diagnoses given?	Are there measures of mental health?	Next planned study
Current Beneficiary Survey (CBS) <sup>1</sup>	first conducted in September 1991 (From July 1966 until 1980 the Census Bureau conducted a similar continuous nationwide study known as the Current Medicare Survey. The CMS - see below - was designed to collect information on the extent, kinds, and costs of medical services used by Medicare beneficiaries.)	Disabled sample: 2,501 Aged sample: 12,714  The oldest-old (85+), those with disabilities, and the nursing home population are oversampled.	Yes	ages 65-69: 2,473 ages 70-74: 2,477 ages 75-79: 2,530 ages 80-84: 2,573 85+: 2,661	~ 340	Health services are identified with the following information: a) provider's specialty; b) facility type (includes as choices outpatient dept., rural health clinics, doctor's office); c) main reason for visit (includes psychotherapy, mental health counseling); d) number of visits; e) prescribed medicine;	Physician's diagnoses as indicated by respondent	Questions asked about mental retardation, Alzheimer's disease, dementia, or any mental or psychiatric disorder	As planned, CBS will be a continuous annual survey.
Current Medicare Survey (CMS) <sup>1</sup>	conducted monthly from 1966 through 1980	basic monthly sample of 4,800 persons enrolled in Part B (These people remain in the sample for 15 months.); additional sample of about 300 beneficiaries who have been in the hospital	Yes	Entire sample is enrolled in Medicare Part B.	~ 120	Health services are identified with the following information: a) date and place of doctor visits; b) type of physician and condition treated; c) other covered medical services received; d) non-covered medical services;	Yes	There are measures of health status.	Survey was discontinued in 1980.
Epidemiological Catchment Area (ECA) Program	conducted between 1980 and 1984	Total sample size of 18,571 (Each of five sites contributed between 3004 and 5034 subjects.); Oversampling of elderly (30% of sample)	???	5,500 persons aged 65+	~ 145	???	Self-reported diagnoses	There are measures of "clinically significant" behavioral changes.	???
New Beneficiary Survey (NBS)	conducted in October-December 1982	National sample of 17,155 new Social Security beneficiaries, plus 1,444 Medicare beneficiaries who are eligible for Social Security but do not receive it.	Medicare status not identified.	ages 65-69: 7,921 ages 70-74: 1,015 age 75+: 71	~ 420	Mental health services not identified.	No	Respondents are questioned on the incidence of mental health conditions.	Follow-up currently being conducted

<sup>1</sup> These surveys contain expenditure information.

<sup>2</sup> An estimate of the number of mental health visits by Medicare enrollees in the sample is computed by dividing the number of persons in the sample aged 65+ by the proportion of Medicare enrollees who are 65 and over (90% in 1988), and then multiplying the result by the ratio of Part B mental health claims to Medicare enrollees (2.25% in 1988).

Survey	Date(s)	Sample Frame	Insurance Status Given?	How many elderly/Medicare patients in sample?	Predicted # of Mental Health Visits <sup>1</sup>	Are mental health services identified?	Are diagnoses given?	Are there measures of mental health?	Next planned study
Client/Patient Sample Survey of Inpatient, Outpatient and Partial Care Programs	1986 and 1990	Sample contained 144 Medicare outpatients	Yes	75 persons aged 65+ with Medicare	unable to estimate	Mental health services are identified with the following info: a) type of facility; b) type of provider; c) whether or not patient received drug therapy;	Yes	No functional measures	Had been planned for 1991; Probably will be conducted in 1993 or 1994.
Longitudinal Client Survey of Outpatient Programs 1984 to 1990	1990	not final (returns still coming in)	Yes	not final (returns still coming in)	unable to estimate	Mental health services are identified with the following info: a) type of facility; b) type of provider; c) whether or not patient received drug therapy;	Yes	Level of functioning is identified.	???
PACE Program	data collected annually since 1984	18,000 program beneficiaries	Yes			Identifies information on psychotropic drug use.	Yes	No	PACE data is collected annually.
Master Beneficiary Record (MBR)	updated monthly	all SSDI beneficiaries included. (4.3 million in 1990)	Medicare status identified.	3.3 million in 1990		No	Initial reason for disability is given.	No	updated monthly
Medicaid Analysis Project for States (MAPS; Formerly Tape-to-Tape)	1982-present	all Medicaid patients in 4 states in most years	Medicaid and secondary	large number	large number	Yes, including psychotropic drug purchases	Yes	No	updated annually
Medicaid Statistical Information System	1985-present	all Medicaid patients in 10 states since 1985; 15 other states have since joined	Medicaid and secondary	large number	large number	Yes, including psychotropic drug purchases	Yes	No	updated quarterly
COMPASS (Medicaid Prescription Data)	1980-present	all Medicaid drug claims in 10 or more states	No	large number	large number	only purchases of psychotropic drugs	No	No	updated annually

<sup>1</sup> An estimate of the number of mental health visits by Medicare enrollees in the sample is computed by dividing the number of persons in the sample aged 65 + by the proportion of Medicare enrollees who are 65 and over (90% in 1988), and then multiplying the result by the ratio of Part B mental health claims to Medicare enrollees (2.25% in 1988).



## CHAPTER 6

### ESTIMATION AND SIMULATION OF BEHAVIORAL RESPONSES

#### 6.1. Background

Numerous researchers have estimated the effects of changes in features of health insurance policies on utilization of benefits, including a substantial number who have examined the effects of changes in various mental health benefits. One approach to estimating the effects of the changes in Medicare's Part B coverage for mental health services is to use the substantial **body of knowledge that** has been accumulated about the behavioral effects of insurance in a simulation model.

In 1989, Alan **Fairbank** of the Congressional Budget Office (CBO) was asked to make a quick assessment of the incremental cost of Senate Bill **100**, which expanded outpatient coverage to psychologists. Due to time constraints, the method he employed was necessarily very simple. We will briefly describe the method used as an example of the approach being considered here in order to provide a simple and instructive illustration.'

**Fairbank** first estimated a regression model of mental health utilization, using state aggregate data from the 1980 National Medical Care Utilization and Expenditure Survey (NMCUES); among his explanatory variables was the density of psychiatrists (number per 100,000) in the state. He then estimated the effect of the extension of benefits to clinical psychologists (**CPs**) in two steps. In the first step, he estimated that the extension of coverage would increase average density by the number of **CPs** per 100,000 population. In the second step, he multiplied the change in density by the regression coefficient for the density variable. The resulting product was equal to 25 percent of average utilization, and he used this as an estimate of the increase in utilization due to this expansion of benefits. For expenditures, he first compared fee data for psychologists and psychiatrists, and used the results along with his estimates of the expected change in utilization to estimate that average Medicare expenditure per service would decline by about 10 percent as the result of the change. These estimated responses were then applied to HCFA data on the number of current beneficiaries using mental health benefits and current average fees to obtain an

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'The following description is based on several conversations with Alan Fairbank.

estimate of the incremental cost of the expanded coverage. In essence, he constructed a very simple simulation model in this last step, and then calibrated it with his estimates of the behavioral parameters and information on current utilization.

As illustrated by Fairbanks analysis, construction of the simulation model and calibration are the two basic steps in this approach. As can be seen in the illustration, the most challenging task is calibration of the model, or, more specifically, estimation of the behavioral parameters. The structure of the model must be complex enough to allow for all potentially important behavioral responses to the policy change. While this can be difficult, a structure that is at least plausible can usually be found. The more difficult task usually is to obtain reasonable estimates of the behavioral parameters. Accuracy of the estimates of the behavioral parameters embodied in the model is the key to the success of the analysis. As will be seen, the main difficulty that this approach faces in analyzing the effects of the policy changes is our limited knowledge about key behavioral parameters.

The importance of the estimates of the behavioral parameters is further emphasized by comparison of the CBO projections to HCFA projections, made by Carter Warfield. Warfield's methodology is essentially the same as Fairbanks, but he makes different assumptions about the sizes of the key behavioral parameters.<sup>2</sup> We have not been able to obtain enough detailed information to make definitive comparisons of the assumptions and results of the projections, but it is evident that the HCFA projections are substantially higher than the CBO projections, and that the source of the differences in the projections is differences in the assumptions about the sizes of the behavioral parameters. As discussed in Section 4 of this chapter, only very limited research has been done on the effects of extending insurance coverage to clinical psychologists and clinical social workers. Given this lack of information, it is difficult to be very critical of either the CBO or HCFA estimates. If such estimates are to be useful, however, it is necessary to narrow the range of reasonable estimates for behavioral responses.

The simulation approach stands in sharp contrast to the analysis of historical utilization data discussed in the previous two chapters. The historical approach attempts to separate out historical changes in utilization that are due to the policy change from all observed changes, and one of its major weaknesses is that this separation is very problematic. The simulation approach predicts the effects of policy change in the absence of any other changes that might

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<sup>2</sup>The discussion in this paragraph is based on telephone conversations with both Fairbank and Warfield.

affect utilization, thereby apparently circumventing the problem that plagues the historical approach. In fact, however, the problem may simply be hidden in the various parameter estimates used in the simulation model since they are likely to have been obtained by using imperfect techniques for separating out the effects of various confounding factors in some other data set. A related difference has to do with separating the effects of the multiple policy changes that occurred. This is difficult to do in the historical approach, while the simulation approach can readily examine the effect of each policy change, alone, given an appropriate model. Again, however, the problems that plague the historical approach in this regard may be embedded in the estimates of the parameters of the simulation model because of the methods and data used to estimate them.

Another difference in the approaches concerns the number and severity of the assumptions that are imposed on the analysis. In the historical approach, few, if any, assumptions are made about how the policy changes affect utilization. In the simulation approach, many assumptions are imposed. For instance, a typical simulation model might assume that a one percent increase in the copayment rate will reduce utilization by a fixed percentage, regardless of the level of current utilization, the copayment rate, and the characteristics of the insured population. Such assumptions are necessary to make the model tractable and also because of limited information on behavioral responses. Similar assumptions could be used in the historical analysis, but they are not often crucial. For instance, the proposed tracking study does not impose such restrictions.

Since the validity of a simulation model's predictions depends on the accuracy of the behavioral assumptions and responses that are embodied in the model, the assessment of the usefulness of this approach will focus on an assessment of information that is available for building the model. It will never be possible to remove all doubt about the validity of the parameter estimates when applied to a particular change since the information used to construct the model comes from data that were collected under circumstances and for populations that may differ in many respects from the circumstances and population that are relevant for the prediction. *A priori*, there is no reason to believe that this will be any lesser or greater than the doubt associated with separating out confounding factors in the historical approach.

Another difference between the historical and simulation approaches has to do with the level of detail in measures of utilization. In both approaches it is possible to examine broad measures of utilization. In the historical approach it may also be feasible to examine very detailed elements of utilization change, whereas in the simulation approach it is not. While it

is possible to build a simulation model that includes very detailed utilization elements, the required assumptions and the calibration demands of such a model are so great that it would generally not be possible to produce credible predictions. Hence, some of the detailed questions, concerning issues such as diagnoses, procedures, and site of visit, are not likely to be answered well by the simulation approach.

McGuire (1991) has developed a general model for estimating the effects of changes in the mental health benefits of employer insurance plans. This model is described in detail in the next section because we think it could serve as a prototype for the development of a Medicare model. In Section 3 we discuss how it could be used to predict the effects of the changes in Medicare's mental health benefits. Successful utilization of the model requires that the model must be able to capture the types of changes that occurred, as well as their potential effects. As will be seen, the removal of the annual limit on outpatient benefits can be captured straightforwardly, although we have suggestions for modifying the model's structure in order to improve the analysis. The structure of the McGuire model is not well suited, in its current form, for analyzing the other policy changes, and modifications to the model will be necessary in order to examine their effects. For the most part, the structural modifications needed would not be very difficult to implement mechanically. Accurate estimation of the structural parameters for a modified model is much more problematic. A review of current knowledge about the behavioral responses to be embodied in these parameters is in Section 5. In Section 6 we discuss how the available information could be used to calibrate a modified model. We summarize our findings and make recommendations in the last section of the chapter.

## 6.2. The **McGuire Model: A Prototype for a Medicare Model**

The objective of this section is to provide an accurate description of the McGuire model. A critique of those features of the model's structure which are most pertinent to the evaluation questions appears in the next section. Discussion of the parameter estimates appears in Section 4.

The McGuire model is described in an appendix to a paper in which it is applied to the health plan of 'Company **X**' (McGuire, 1991). For simplicity, we will use the parameter values from the Company X analysis in the description of the model, but any of the values could be changed for the simulation of the effect of Medicare policy changes. The model assumes that the number and characteristics of policyholders are not affected by changes in benefit features, as would be the case for Medicare.



The model considers inpatient and outpatient utilization separately. The parameter values used in the Company X model imply that these are independent of each other, but the structure of the model can allow for interaction between the two. The treatment of outpatient utilization is simpler than that of inpatient utilization, so we will describe the former first.

## A. Outpatient Services

Utilization of outpatient services is divided into determination of (1) the distribution of utilization among users and (2) determination of the number of users. Utilization may be measured as either number of visits or expenditures, depending on the application.

### 1. The Distribution of Utilization among Users

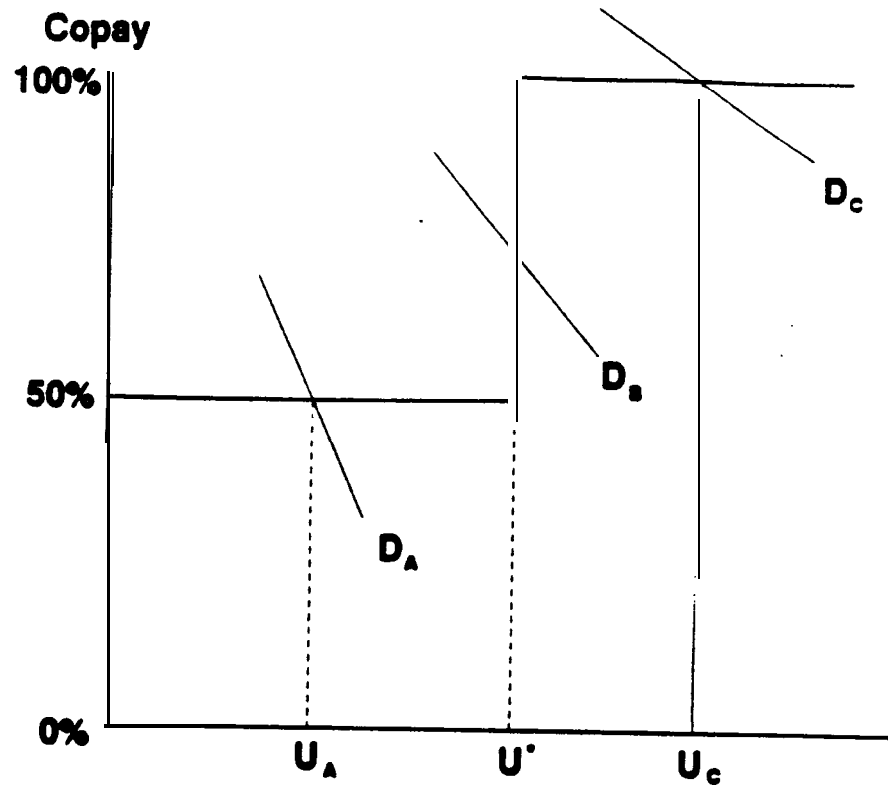
Each user's demand for mental health care declines with the copay rate. The specific demand function assumed is:

$$(1) u = (1 - .5c)U_0,$$

where  $U$  is utilization,  $c$  is the copay rate ( $1 \geq c \geq 0$ ;  $0$  = no copay,  $1$  = 100% copay) and  $U_0$  is utilization when there is no copay ("complete insurance"). The value of the coefficient of  $c$ , **.5**, is the first of several 'parameter values' that can be changed to values that are more appropriate for a particular application, such as an application to Medicare. **McGuire** chose the value of **.5** for the Company X model on the basis of information that is discussed in the next section. The value of  $U_0$  varies across users, and a key part of the calibration of the model is determining its distribution. The function implies that a reduction in the copay rate from 50% to 20% will increase utilization for each user by  $-.5(.20 - .50)U_0 = .15U_0$ , or 15% of full insurance utilization.

For some policies the copay rate may depend on the level of utilization. For instance, prior to 1986, Medicare's 50% copay rate for outpatient mental health services became, implicitly, a 100% copay rate when the annual charges-for outpatient mental health services reached \$500, at which point Medicare benefits reached the maximum annual benefit, \$250. This situation is depicted in Figure 6.2.1, where the copay rate appears on the vertical axis and the level of utilization appears on the horizontal axis. Utilization rate  $U^*$  represents the level of utilization at which the maximum annual benefit is exhausted. Downward sloping demand curves for three representative users are also drawn in the figure. Consumer A, whose demand curve is **labelled**  $D_A$ , will choose utilization  $U_A$ , at a 50% copay rate.

FIGURE 6.2.1



Consumer C, whose demand curve is labelled  $D_C$ , will choose utilization  $U_C$ , at a '100% copay rate, and consumer B, whose demand curve is labelled  $D_B$ , will choose to consume  $U^*$ , at a 50% copay rate. Thus, the relevant copay rate for each consumer is jointly determined by the copay rate schedule and the location of the consumer's demand function.'

## 2. Determination of the Number of Users

Users are divided into "high," "medium," and "low" users (H, M, and L) on the basis of  $U_o$  for purposes of determining the number of users. In the Company X model, where utilization is measured in annual visits, high users are those with  $U_o$  greater than 20, medium users are those with  $U_o$  between 11 and 20, and low users are those with  $U_o$  of from 1 to 10. It is assumed that high users will continue to be users even with no insurance. The number of medium users depends upon the out-of-pocket costs (deductibles plus copayments) for a person who makes 15 visits annually. Let  $d$  represent the proportion of costs which are out-of-pocket costs for 15 visits, and let  $M_o$  represent the number of medium users there would be if  $d$  were zero. In the Company X model,  $M$  is determined by:

$$(2) \quad M = (1 - .25d)M_o.$$

The specification for low users is analogous, except that changing from no out-of-pocket costs to 100% out-of-pocket costs for 15 visits reduces the number of low users by 50%:

$$(3) \quad L = (1 - .5d)L_o.$$

The coefficients of  $d$  in both (2) and (3) can be changed.

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<sup>3</sup>The determination of the relevant copay rate is more complex when the copay rate declines with expenditure. Such a situation would arise if Medicare imposed a mental health deductible, in which case the implicit copay rate would be 100% until out-of-pocket expenses reached the deductible amount, after which it would fall to 50%. Under such a copay structure, an individual's demand curve may intersect the copay schedule at two or more points. Then it is necessary to determine which point the individual would choose. This is done in the model by comparing the consumer surplus at each intersection. Consumer surplus is defined as the area under the demand curve to the left of the point, minus out-of-pocket expenditure at that point. This problem would not arise in the evaluation because there is no deductible for Part B mental health benefits apart from the small deductible (currently \$100) that applies to all Part B benefits.

The distribution of  $U_o$  and the values of  $H$ ,  $M_o$ , and  $L_o$  are assumed to be exogenous to the model and must be determined prior to using the model for predicting the effects of changes in plan features. If the full distribution of utilization under the insurance plan's current features is observed, this can be done as follows: for each user under the current plan we observe actual utilization,  $U$ , and we know the relevant copay rate. We can compute  $U_o$  by inverting the demand function:

$$(4) \quad U_o = U/(1 - .5c).$$

Thus, we can construct the distribution of  $U_o$  from the current copay schedule and the current distribution of  $U$ . The numbers of low, medium, and high users ( $L$ ,  $M$ , and  $H$ ) under the current features are determined from the distribution of  $U_o$  for current users, and the schedules for  $L$  and  $M$  can be inverted to get the number of low and medium users under full insurance,  $L_o$  and  $M_o$  – provided, of course, that the demand function is correctly **specified**.

The full distribution of  $U$  under the current plan features may not be observed. This would be true if insurance claims data are relied on for measuring  $U$  and no claims are filed for some utilization because of lack of coverage. For instance, if there is an annual limit on benefits there may be no incentive to file a claim once the limit has been reached. In such a situation the distribution of  $U$  can be estimated by assuming some parametric form for the distribution and estimating the parameters of the distribution from claims and other data. **McGuire's** (1991) estimates for Company X provide an example. The best method will depend on the nature of the data available. Appropriate methods for estimating the Medicare distribution are considered in Section 4 of this chapter.

Given a distribution for  $U_o$ , the values for  $H$ ,  $M_o$ , and  $L_o$ , the copay schedule, and the value for the proportion of expenses for the first 15 visits that are covered out-of-pocket ( $d$ ), the distribution of outpatient utilization,  $U$ , is readily obtained from the model. Changes in outpatient mental health benefits enter the model through changes in the copay schedule and in  $d$ . The effect of any proposed change on utilization is determined by comparing the distribution of utilization under the current and proposed values for  $d$  and the copay schedule, holding other parameters of the model constant.

## **B. Inpatient Services**

The number of episodes of inpatient care are assumed to be independent of insurance benefits, although it would be straightforward to modify the model to allow the number of

episodes to depend on both inpatient and outpatient benefits. Utilization during each episode, measured in either days of inpatient care or expenditure on inpatient care, depends on both demand and supply side cost-sharing. Both the patient and the provider determine how much care is desired per episode; they may disagree, and actual care is assumed to be a simple compromise between care desired by the patient and care desired by the provider. It should be noted that the structure of this part of the model differs fundamentally from the structure of the outpatient **part**, where there is assumed to be no supply-side cost sharing. In the presence of supply-side cost sharing for outpatient services (for example, if the provider is an HMO), the outpatient model for utilization per user could be modified to have the same structure as the inpatient model.

A **patient's** desired utilization in an episode,  $D$ , is given by

$$(5) D = (1 - .7s)D_o,$$

where  $s$  represents the patient's share of costs (copay) and  $D_o$  represents the patient's desired utilization under no demand-side cost sharing. Thus, a change from 100% coverage to no coverage would reduce the patient's desired utilization by 70%. The coefficient of  $s$ , **.7**, can be changed, and it would also be possible to allow desired utilization to be an increasing function of the copay for outpatient benefits.

Actual utilization may differ from that desired by the patient because the level of utilization desired by the patient's provider may differ from the level desired by the patient. **McGuire** assumes that the provider's desired utilization is identical to the patient's demand under complete insurance, is not affected by cost-sharing on the demand side, but is affected by cost-sharing on the supply side. Cost-sharing on the supply side arises when the provider is paid a fixed amount that is independent of the level of services provided during the episode, and a variable amount that depends on the level of services. A prospective payment system is a special case; the entire payment is fixed, so the effective cost-share rate is 100%. In the **McGuire** model, the provider's desired utilization,  $S$ , **falls to** just 30% of the desired supply with no supply-side cost sharing:

$$(6) S = (1 - .7r)D_o,$$

where  $r$  is the provider's share of **cost**. The coefficient of  $r$ , **.7**, can be changed.

If  $s$  and  $r$  differ, the patient and provider will want to utilize different amounts of care, and a conflict results. In the model, the conflict is resolved by “splitting the difference.” Thus, actual utilization of inpatient care per episode,  $C$ , is given by:

$$(7) C = .5(D + S) = .5[(1 - .7s)D_o + (1 - .7r)D_o] = [1 - .35(s + r)]D_o.$$

In this equations the coefficients of  $s$  and  $r$  are identical, but they could be different.

McGuire (1989a) and Ellis and McGuire (1991) formalize patient-provider disagreements in a Nash-Roth bargaining model, and show that the solution to the model is splitting the difference if the demand and supply curves are linear. As a result of this feature of the model, an increase in demand-side cost sharing from zero to 100 percent would reduce actual utilization in an episode by only 35 percent, rather than the 70 percent reduction that the patient would prefer.

While the assumptions that Ellis and McGuire use to support the inpatient model may seem severe, the “bottom” line, equation 7, is intuitively plausible, and it is not clear that such severe assumptions are needed to support it. For instance, they define  $D_o$  as the quantity of service that the patient would choose under no demand-side cost sharing and then assume that the provider would choose the same amount under no supply-side cost sharing, which is difficult to either support or refute. However,  $D_o$  could be redefined as the quantity of care service that the patient and provider would agree on, through an unspecified bargaining process, if there were no cost-sharing on either side of the market. Nor is it necessary to specify that patients and providers split the difference between the desired level of utilization in the presence of cost sharing; given the other parts of the specification, any fixed split would yield an equation that is identical in **form** to equation 7 – a linear function of  $s$  and  $r$  multiplied by  $D_o$ .

The distribution of  $D_o$  can be determined from the observed distribution of utilization under the current plan by inverting the relationship between actual utilization and  $D_o$ , analogously to the determination of the distribution of  $U_o$  for outpatient care. The inverted relationship is:

$$(8) D_o = [1 - .35(s + r)]/C.$$

Given the number of episodes of inpatient care, the distribution for  $D_o$ , and schedules for demand-side and supply-side cost sharing, the distribution of inpatient utilization per episode

is readily determined by the model. For plans in which either the demand- or supply-side cost shares ( $r$  and  $s$ ) vary with the level of utilization, the actual rates for a particular patient will be jointly determined with the level of utilization, just as in the outpatient model. The effects of changes in benefit features are **modelled** by comparing the simulated utilization distribution under the new features to the distribution under the old features.

### 6.3. **Simulating the Effects of the Changes In Medicare's Mental Health Benefits**

In this section we assess the adequacy of the structure of the **McGuire** model for answering the evaluation questions. While the model could be used without structural modification to answer some of the evaluation questions, substantial modifications will be required to answer others. This is not surprising since the model was not designed for the purpose of answering these questions. We describe the nature of the structural modifications that would be necessary in the development of a Medicare model that would address the major evaluation questions. Discussion of estimation of the parameters of a Medicare model is deferred to the next section.

The objective of the evaluation is to determine the effects of changes in four features of Medicare Part B mental health benefits: (1) raising and eventual elimination of the annual benefit limit for outpatient services; (2) expansion of providers covered by outpatient benefits to include independent clinical psychologists and clinical social workers; (3) reduction in the copay rate for drug management, from **50** percent to 20 percent; and (4) expansion of coverage to include partial hospitalization services. In the first four subsections of this section we discuss, in order, how each of these changes would be **modelled** in the **McGuire** model and to what extent the model would need to be modified to capture them. In the last subsection we discuss other structural limitations on the model's ability to answer the evaluation questions. For instance, the Company X model pays no attention the utilization of non-mental health benefits, so it is not possible to do offset analyses with it. Possible extensions to reduce such limitations are suggested.

Throughout this section it is assumed that the model is fully calibrated and that possible extensions to the model can be fully calibrated as well; the critical issue of calibration is deferred to the next two sections. "Full calibration" means that all the parameters of the model are accurately estimated and that the distributions of full insurance utilization of outpatient and inpatient benefits ( $U$ , and  $D_o$ ) have also been estimated. Unless otherwise specified, actual utilization of both outpatient and inpatient services is measured in terms of provider charges, although an alternative definition, such as number of visits, can be used.

Note that high, medium, and low users of outpatient benefits (H, M, and L) **would need** to be defined in terms of their outpatient mental health charges, rather than the number of annual visits, to be consistent with this definition.

It is also assumed that there is no deductible for mental health benefits. There is, in fact, a deductible for Part B benefits in general. Since the deductible is very small, and since the typical beneficiary will have enough non-mental health expenditures to use it up, it can be safely ignored.

(1) Simulation of an Increase in the Annual Benefit Limit.

The annual limit applies to outpatient benefits only. As discussed in Section 2, the limit was \$260 prior to the increases that began in 1966. Given full calibration, the effect of a change in the limit on outpatient utilization for users can be determined by modelling the change as a change in the copay schedule. The effect of the change on utilization by users is illustrated in Figure 6.3.1. Before the limit is raised, the copay is 50 percent until utilization reaches twice the original annual limit, at  $U^*$ , and then it increases to 100 percent. Increasing the limit so that it is reached at some utilization level  $U^{**} > U^*$  simply extends the 50 percent copay schedule to that level of utilization, after which the 100 percent copay level remains in effect. The new portion of the copay schedule is the dashed line in the figure. This change will only affect utilization for those users whose demand curves intersected the old copay schedule at or to the right of  $U^*$ , and to the left of  $U^{**}$ , like users B and C. We will refer to these users as ‘marginal’ users.

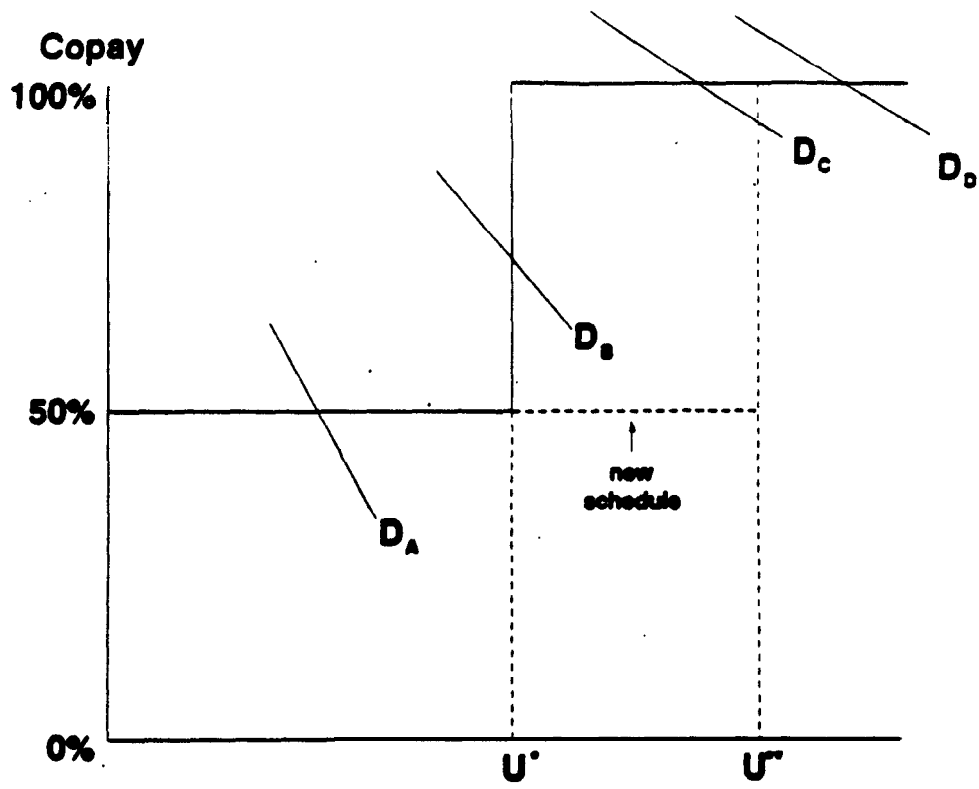
While it is reasonable that users who were receiving fewer benefits than the annual limit will not change their behavior when the limit is increased, it is questionable whether it would affect the behavior of those whose original utilization is at a level that would exhaust their benefits under the new limit. These people would receive a windfall from the increased limit equal to the difference between the new limit and the old. For at least some, this might have a positive effect on their utilization; their demand curves would shift to the right.<sup>4</sup> The

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<sup>4</sup>This suggestion may seem to contradict the definition of a demand curve. Demand curves, by definition, are constructed to show how quantity demanded changes when the price faced by the consumer changes, taking into account both substitution effects and income effects. However, in the standard construction it is assumed that the consumer pays the same price for all units of the good purchased; the price of the marginal unit is the same as the price for all inframarginal units. A change in the price of inframarginal units, holding the marginal price constant, shifts the demand curve if the income effect is not zero.



FIGURE 6.3.1



model would thus underestimate the effect of this change on utilization by such users, but it will not under estimate the change in benefits received by such users since their benefits already exceeded the new annual limit. The marginal users also receive a windfall. Hence, their demand curves may also shift to the right, and both their utilization and benefits may increase by more than the model predicts.

The size of the effect that is due to shifting of the demand curves may be small relative to the size of the effect from movement along the existing curves, but the possibility that it is large should be considered further. The size will depend on: (1) the number and distribution of beneficiaries who **are above** the annual limit before the change; (2) the distribution of the size of the windfalls received, which will certainly be large for some beneficiaries since the limit was increased from \$250 to infinity; and (3) the effect of exogenous increases in income on consumer demand **curves** (income effect). **If** the evidence suggests that the combination of these three is large, then the model should be modified to incorporate income effects in the demand curves. This could be done by specifying that each user's utilization under full insurance ( $U_o$ ) increases by a fixed amount for a given exogenous increase in income. The amount to be used would have to be estimated from other research. Then, the windfall that **each user receives from the increase** in the limit would be calculated, and the user's value for  $U_o$  would be increased accordingly.

Another problem with using the model to simulate the effect of raising the limit on the level of utilization for users has to do with Medi-Gap insurance. As discussed in Chapter 3, Medi-Gap policies are required to cover coinsurance payments. Hence, an individual who has Medi-Gap insurance both before the limit will face a zero copayment rate up to the limit and then a **100** percent copayment after the limit, assuming that the particular Medi-Gap policy does not extend mental health benefits beyond the limit. When the limit is removed, the copayment for expenditures beyond the old limit will drop to zero. Beneficiaries who owned Medi-Gap policies that extended mental health benefits above the limit would receive a smaller reduction in copay when the limit is removed. While some information about **Medi-Gap** mental health benefits is available, we do not know which users have Medi-Gap insurance. If most users of mental health benefits do have Medi-Gap insurance, the results will be quite different than if most users do not have Medi-Gap insurance.

The increase in the limit will also affect the number of users of outpatient benefits if it affects out-of-pocket expenses for 15 visits.<sup>5</sup> Recall that the numbers of medium and low users (M and L) are functions that depend on the proportion of expenses for 15 visits that are out-of-pocket (d). If benefits are exhausted at or before 15 visits prior to raising the limit, d will be reduced and the number of medium and low users will increase. As a result, there will be a change in the distribution of U<sub>i</sub>. Since the new users are all medium and low users, this change will have a **negative** effect on average utilization and benefits by users, even while total utilization and benefits are increasing.

The specification that the number of users is determined by out-of-pocket expenses at 15 visits, or any other specified number of visits, has some undesirable implications, although it is not clear how important they are. One is that the number of low users will increase if the annual limit is reached before 15 visits even if such users would make fewer than 15 visits under full insurance. The specification also implies that if the limit is reached before 15 visits, a one dollar increase in the limit has the same effect on the number of users whether the initial limit is \$100 or **\$1,000**.<sup>6</sup> Thus, increases in the limit have a constant effect on the number of users up to a point, and have no effect after that. While the effect of increasing the limit on the number of users should diminish as the limit increases, it seems unlikely that it would do so in such a discontinuous fashion.

It is difficult to tell whether this feature is a serious problem without actually doing some simulations. If it is, modifications that would eliminate it should be considered. An example of such a modification is the following: Let **N<sub>i</sub>** represent the number of users at utilization level **U<sub>i</sub>**, and let **N<sub>0</sub>** represent the number of users there would be at the full insurance level of utilization for these users, **U<sub>0</sub>**. Let **d<sub>i</sub>** represent the proportion of expenses that must be paid out-of-pocket at utilization level **U<sub>i</sub>**, and specify that:

$$(1) \mathbf{N_i = (1 - \beta_i d_i) N_{0i}}$$

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<sup>5</sup>The number 15 is a parameter in the Company X model, and it is not necessarily the best value for the Medicare model. As with other parameters, we adopt this value in the discussion for the sake of concreteness.

<sup>6</sup>If expenses exceed the limit prior to 15 visits, a one dollar increase in the limit reduces the proportion of out-of-pocket expenses for 15 visits, d, by **1/E**, where E is total expenses for 15 visits. According to equation (2) the number of medium users will be increased by **.25M<sub>0</sub>/E**, and according to equation (3) the number of low users will be increased by **.5L<sub>0</sub>/E**. Thus, the size of the effect does not depend on the size of the initial limit.

where  $\beta_i$  is a parameter, between zero and one, that **declines** with  $U_i$ . The Company X specification can be viewed as a specialized case that uses the same values for  $\beta_i$  within three groups and uses the same value of  $d$  for all groups, based on 15 visits rather than on  $N_p$ . Whether such a modification is warranted depends on both the size of the discontinuity implied by the Company X model and the ability to accurately estimate the parameters of the modified model.

As discussed in the previous section, inpatient and outpatient utilization are independent in the model. Hence, the model will predict that a change in the limit on outpatient benefits will not affect utilization of inpatient benefits. In the absence of any evidence to show that inpatient and outpatient utilization are not independent, this is the best that can be done. **In this case, the simulation results should not be** taken as evidence that the increase in the limit has no effect on inpatient utilization; they simply reflect the failure to find a relationship between inpatient and outpatient utilization in other studies. Should other evidence show a relationship between inpatient and outpatient utilization, it would be possible to extend the model to capture such a relationship. In an extended model the outpatient demand functions would depend on inpatient benefits and vice-versa.

The problems described in this section and the possible modifications, are relevant to simulation of other policy changes as well. Hence, correcting these problems may be important for reasons other than the simulation of the effects of the coverage limits.

## **(2)     Simulation of an Expansion of Providers Covered**

This benefit change clearly affects the supply side of the outpatient market, but there is no explicit supply-side in the outpatient part of the **McGuire** model. Instead, supply is treated as if it is perfectly inelastic at some predetermined price; that is patients can buy as much care as the like at some unspecified price. Given that price, the copayment rate determines the consumer's choice. Thus, each user's demand curve should be thought of as the schedule of **quantity** demanded as a function of the copay rate, holding supply constant. An increase in supply would have the effect of shifting **each user's schedule out**. Hence, a simple way to model the effects of the extension of coverage to non-physician providers is to shift **each user's copay schedule outward**. A simple way to model the effect on the number of users would be to reduce the estimate of out-of-pocket expenditures for 15 visits ( $d$ ).

**To** model the effect on choice of specialty explicitly it would be necessary to model the number of users by provider type and the level of utilization (demand functions) for each type.

In such a model the number of users for each type of provider would depend on not only the out-of-pocket expenses for a specified number of visits to that type of provider, but also **out-of-pocket** expenses for specified numbers of visits to the other provider types. Similar **cross-price** effects could be added to the demand functions, but it seems likely that changes in the relative prices of providers will have their greatest impact through the choice of provider type, rather than through the level of utilization of the chosen provider type.

There is no mechanical difficulty in extending the model to differentiate between provider type. Further, if the parameters that appear in the functions for number of users and level of utilization, there is no difficulty in computing the distributions of full insurance levels of utilization for each specialty. The only difficulty is estimating the parameters. This problem is taken up in the next section.

### **(3)     Simulation of a Reduction in the Copay Rate for Drug Management**

The model does not differentiate between drug management and other types of mental health services. In order to simulate the effect of a change in the copay of drug management, it would be necessary to develop separate functions for the number of users and level of utilization for each type of service. It would be necessary to model the effects of the copay for drug management on both the number of users of other services and the level of use. Symmetrically, the effects of copayments for other services on the number of drug management users and the level of utilization for users would have to be modelled. As with the extensions discussed in the previous section, there is no mechanical problem with developing such an extension; the only difficulty is estimating the model's parameters.

### **(4)     Simulation of **Expansion of Coverage** to Partial Hospitalization Services**

Again, the 'model in its present **form** does not allow such simulations. Expansion of the model to include separate equations for the number of users of partial hospitalization and the level of utilization is certainly possible from a mechanical point of view. In such an expansion, it would be **critical** to include cross-price effects between inpatient utilization and utilization of partial hospitalization services. Cross-price effects may appear on both the patient side and the provider side of the inpatient model. On the provider side, an increase in provider cost sharing for inpatient care may lead the provider to reduce length of stay by more when partial hospitalization benefits are available than when they are not. In other respects, the expansion would be along the lines of the expansions needed to differentiate between type of provider

and type of service. As before, the critical question is whether the parameters of the specified functions can be accurately estimated.

#### **(5) Other Simulations**

The simulation approach can be used to analyze the effects of benefit changes in addition those benefit changes that have already occurred. **The McGuire** model is particularly well suited to analyzing the effects of each of the following changes: (1) any change in the outpatient copayment schedule; (2) imposition of a special deductible for outpatient deductible for mental health services; and (3) any changes in the schedules for both demand-side and supply-side sharing of the costs of inpatient care. Analysis of a change in the outpatient copay schedule would follow the same steps as the analysis of the removal of the annual benefit limit, and would be subject to the same limitations (see above). Introduction of a deductible would have the effect of increasing the proportion of expenses for 15 visits that are out-of-pocket, thereby shifting the schedules for the numbers of low and medium users; the number of high users and the utilization schedule for each user would be unaffected. The analysis of changes in the schedules for both demand-side and supply-side sharing of the costs for inpatient care would be analogous to the analysis of changes in the outpatient copayment schedule.

Such analyses would be especially helpful in answer evaluation question eight:

#### **8. How, if at all, should payment for outpatient mental health services be further changed to increase access at minimum, or even reduced, cost?**

For instance, the simulations could be used to show how a reduction in the outpatient copayment rate combined with either reimposition of an annual limit, or introduction of a deductible would affect utilization and cost. This analysis would be most interesting for policy purposes if it were done for various groups of Medicare beneficiaries, as described in the next part of this section. Such changes are likely to increase utilization by some beneficiary groups and reduce utilization by others. Group analyses would allow identification of which groups benefit from such changes and which groups lose.

#### **(6) Other Structural Limitations and Extensions**

We have already described a number of structural limitations of the **McGuire** model for analyzing the changes in Medicare's Part B mental health benefits and have described how the model would need to be modified in order to simulate the effects of these policies on

utilization. Even if all of the suggested extensions were successfully implemented, the model would still fail to answer some of the evaluation questions. In this section we discuss these limitations and the possibilities for extending the model in order to reduce them.

Several of the evaluation questions ask for the characteristics of people who benefit from the policy changes. While the model as presented does not distinguish individuals by characteristic, it is straightforward to apply the model to groups of Medicare beneficiaries, defined by characteristics, rather than to all Medicare beneficiaries. For instance, beneficiaries who were originally entitled to Medicare due to a disability could be analyzed separately from those who were originally entitled due to age. There are two cautions in doing such group analyses: (1) the characteristic(s) used to define a group must not be influenced by the policy change; and (2) the parameters that are appropriate for Medicare beneficiaries as a whole are not necessarily appropriate for subgroups.

To illustrate the first point, differentiation by age, sex, and/or race is acceptable since these characteristics will not be changed by the policy changes, but differentiation by whether or not an individual visits a psychiatrist is not since the policy change may affect each individual's choice of provider, thereby shifting some individuals from one group to the another.

The appropriateness of grouping is clear for most characteristics, as in these examples, but may not be for some. For instance, grouping by urban/rural might be inappropriate since it is conceivable that the expansion of coverage to independent **non-**physician providers influenced the location decisions of some mentally ill beneficiaries. As another example, for the tracking study we defined a group of beneficiaries with "serious" mental illnesses. This group could be examined separately in a simulation model provided that the group is defined in such a way that membership in the group will not be affected by the policy changes. As a third example, grouping by diagnosis is generally ill advised since some diagnoses may be sensitive to the policy changes, but analysis of a few diagnostic groups that are not likely to be sensitive to the changes (e.g., schizophrenia) would not be problematic.

Regarding the second point, the model assumes that the slope parameter for every user's outpatient demand curve (represented by **-0.5** in equation 1 of Section 2) is the same. This assumption may be of little consequence when examining the effect of a policy change on the Medicare population as a whole, but it could be of substantial consequence to group analysis if the slope parameter varies with the characteristic(s) used to define the groups. For

example, the utilization of users who have serious mental illnesses may be less responsive to changes in copay than others; certainly the number of users among those with serious mental illnesses will be less responsive to changes in out-of-pocket expenses than will the number of users among other beneficiaries. Hence, either beneficiaries should not be grouped by characteristics that are likely to be related to the size of behavioral responses, or parameter estimates that are group-specific should be used.

A number of the evaluation questions concern the effects of the policy changes on diagnoses, therapeutic approaches, type of service, and/or site of service. The simulation model does not distinguish services by these factors, with the exception of inpatient vs. outpatient service. We have previously discussed an extension to distinguish between outpatient drug management and other outpatient **services**. Similar extensions could be developed to distinguish among diagnoses and various characteristics of service, but to do so in a meaningful way would require estimates of the effects of copayments and other policy features on each diagnosis and type of service considered. It is very unlikely that accurate estimates will be available. Hence, the simulation approach does not offer much promise for answering these types of questions.

It is also not possible to do offset analyses with the model in its present form. **Offset** analysis requires examination of the effects of increased mental health benefits on the utilization of non-mental health benefits. Since the model only considers utilization of mental health benefits, it would have to be extended in order to do offset analysis. Such an extension is mechanically feasible. The structure of the extended model would be quite similar to that of the model that differentiates between drug management and other treatments, with different copayments for the two types of services. Calibration of such a model would require estimates of the responsiveness of non-mental health utilization to changes in mental health copayments and other mental health benefits.

#### 6.4. Previous Research on Behavioral Responses

In this section we discuss the existing evidence on behavioral responses to changes in insurance benefits for mental health services. The following topics, which are each of relevance to the **McGuire** model and/or to the development of a Medicare model, are discussed: (1) the effect of changes in the copayment rate for outpatient mental health **services** on utilization of those services; (2) the effect of changes in inpatient supply-side cost sharing on utilization of inpatient mental health services; (3) the effects of expanding insurance coverage to independent non-physician providers (clinical psychologists and clinical



social workers); (4) the effects of expanding insurance coverage to partial hospitalization programs; (5) the effects of changes in the copayment rate for management of psychopharmacological drugs; (6) the effect of changes in the copayment rate for outpatient mental health services on the use of inpatient mental health services; and (7) the effect of changes in the copayment rate for outpatient mental health services on the use of non-mental health services (offset analysis).

### **(1) Effects of Copay on Utilization of Outpatient Mental Health Benefits**

Even though the copay on Medicare outpatient mental health benefits has not changed (with the exception of the copay for drug management), it is necessary to estimate the effect of changes in the copay on utilization in order to use the model to analyze the effects of other policy changes. The most obvious reason for this is that the removal of the annual limit on outpatient mental health benefits is, in effect, a reduction in the copay for benefits beyond the former limit, from 100 percent to 50 percent. Further, analyses of the relationship between the copay and the number of users of mental health benefits can yield estimates of the effects of out-of-pocket expenses on the number of users. As modelled, a given increase in the proportion of out-of-pocket expenses for a fixed number of visits has the same effect on the number of users whether the increase comes from an increase in the copay or a reduction in the limit.

Considerable research has been devoted to the question of the effect of copayments on utilization of outpatient mental health **benefits**. There are numerous potential problems with using estimates from this research to calibrate the simulation model for Medicare beneficiaries. The first is bias in the estimates due to misspecification of the econometric model used to analyze the data. Much of the research uses non-experimental data. For such data, it is necessary to control for a variety of confounding variables; failure to do so may result in estimates of the parameters of interest that partially reflect the effects of these variables. It is also possible to misspecify estimators when experimental data is used. An important example of such a misspecification appears in the literature to be discussed.

A second potential problem is estimator imprecision; even if a model is correctly specified, the standard errors of the estimates for relevant parameters may be so large that we cannot be confident that the point estimates are close to the true values.

The third potential problem is that the data used in the research are for a population which is much different than the Medicare population. Behavioral responses of the Medicare

population may differ substantially from those of other populations, but it is often difficult to tell from the research results whether this is so.

A fourth problem is that the research results may apply only to a limited range of values for the copay; it is risky to extrapolate them to the entire range necessary for examining the effects of the policy change. Note that in order to analyze the effect of the removal of the annual limit, it is necessary to have an accurate estimate of the effect of a change in copay for the range from 50 percent to 100 percent, and for those users who originally exceeded the limit. Ideally, we would like to have an estimate of the change in copay for values from 50 percent to 100 percent for heavy users of mental health benefits who are Medicare eligible.

The fifth problem has to do with biased selection. The non-experimental data used in many studies includes many individuals who have chosen insurance policies that are most beneficial to them. Individuals who expect to use mental health care are more likely than others to choose policies with low copayments for mental health benefits. Hence, estimates from non-experimental data that show a negative link between copay and use of benefits may partly reflect the individual's choice, as well as the exogenous effect of the copay.

Since over 98 percent of Medicare Part A beneficiaries purchased Part B coverage even before the mental health policy changes occurred, a reduction in the Medicare copay is unlikely to induce many more Medicare beneficiaries to purchase Part B coverage. Hence, for our purposes it is most appropriate to view the choice of insurance as predetermined; we seek estimates of the exogenous effect of changes in the copay on utilization holding insurance constant. One might argue that the estimates used to calibrate a Medicare model should reflect biased selection in order to account for possible changes in **Medi-Gap** policies. Even so, it is not clear that the effects of biased selection due to use of Medi-Gap policies by Medicare beneficiaries will be of the same magnitude as the effects of biased selection found in other data sets.

McGuire (1989b) provides a comprehensive review of the most recent literature on the effects of cost-sharing on the use of both outpatient and inpatient mental health benefits. An earlier review by Frank and McGuire (1986) examines earlier studies of the effects of insurance on utilization of outpatient mental health services.

Table 6.4 from McGuire (1989b) is reproduced as Exhibit 6.4.1. The table summarizes the results from four recent studies on outpatient copayments. The value of the response

parameter in the Company X outpatient demand schedule (see Equation (1) in Section 6.2) is to be based on the results in this table.

The last row in the table gives estimates from each study for the elasticity of utilization with respect to a change in the copayment rate. An elasticity of 0.5 means that a reduction in the copay rate of 1 percent increases utilization by 0.5 percent.’ Recall that in the Company X model a reduction in the copay rate from 100 percent to 0 percent increases utilization by 50 percent for those who are users; thus an elasticity of 0.5 is used. The interpretation of the first of the four values in the table is different than the interpretation of the last three. The last three values refer to the increase in utilization among current users only, while the first refers to the total increase in utilization, including new users. The model elasticity of 0.5 refers to changes in utilization for existing users, and thus is comparable to the last three values in the table, rather than the first.

The Keeler et al. study uses data from the Rand Health Insurance Study. These data, unlike the data used in the other studies, were generated by a randomized experiment. Approximately 4,000 non-elderly individuals were randomly assigned to various plans. Because of the randomized assignment, the estimates are not confounded by biased selection effects.

Earlier analyses of these data (Manning et al., 1984 and 1966) had **concluded** that utilization of mental health services was no more responsive to copay than utilization of **non-**mental health services. These analyses were conducted by simply comparing utilization across plans with different copayment rates (**0%, 25%, 50%, or 95%**), but neglected to take into account the effect of a \$1,000 annual limit on out-of-pocket expenditures. Because of this limit, the effective copay at the margin for some individuals was zero. As **McGuire** (1989b) argues, individuals in the 95 percent copay group are more likely to have hit the annual limit simply because of their higher copay. Keeler et al. rectify this problem by analyzing episodes of care and calculating the copay that applies to the marginal care in each episode, given the features of the relevant plan. They then examine the behavior of those individuals who do not anticipate exceeding the limit. Among these individuals, those with a 25 percent copay

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‘The table makes a distinction between an “arc” elasticity and a “point” elasticity. A point elasticity refers to the elasticity for a small change, and may depend on the actual value of the copay. Point elasticities are usually reported for the average value of the copay in the sample. An arc elasticity refers to a large change in the copay, such as from 0% to 95% in the Keeler et al (1986) study.

## Exhibit 6.4.1

### Recent Estimates of the Price Elasticity of Demand for Ambulatory Mental Health Care

	<b>Keeler et al. (1986)</b>	<b>Taube et al. (1986)</b>	<b>Horgan (1986)</b>	<b>Ellis &amp; McGuire (1986)</b>
Data source	HIS 1974-78	NMCUES 1980	NMCES 1977	Massachusetts Blue <b>Shield</b> 1981-83
Price variable	<b>'Pure coinsurance'</b>	Average Price	Average Price	'Expected price'
Type of elasticity	Arc <b>(0-95%)</b>	Point, extent of use only,	Point, extent of use only	Point at 50% coinsurance, extent of use only
Value of elasticity estimated	0.59	0.54	0.44	0.37'

1 This is for a 90day decision period. Estimates were slightly different for different time periods.

Source: McGuire (1989b)

consumed 70 percent as many services as those with no copay, those with 50 percent copay consumed 88 percent as many services, and those with 95 percent copay consumed 26 percent as many services. The relationship between copay and **services** consumed is very roughly linear and suggests that a change from full insurance to no insurance would reduce utilization by about 75 percent. Note that in the Company X version of the **McGuire** model, such a change would have the following effect: the number of low users would drop by 50 percent, the number of medium users would drop by 25 percent, the number of high users would remain unchanged, and average utilization for each user would drop by 50 percent. If there are equal numbers of low, medium, and high users, the total drop in the number of users would be 25 percent, so the total usage would drop by 75 percent (the sum of the percentage drop in users and the percentage drop in utilization for users). Thus, the Company X version of the model is consistent with the Keeler et al. results.

Taube et al. (1986; second column in table) and Horgan (1986; third column in table) used data from two major national surveys of health care expenditures to estimate regression models of utilization of mental health services, given some use. Their price variables are average out-of-pocket expenses as a percentage of total expenses, rather than copay, and represent a mixture of deductibles, copayments, and limits. In addition, due to biased selection their estimates may overstate the effect of the copay on utilization by users, as discussed above. Hence, the comparability of their elasticities with the Keeler et al. elasticities may be fortuitous. Ellis and **McGuire** (1986; last column in table) examined the price effects implied by an annual limit on a Blue Cross/Blue Shield plan. They predicted the end-of-year price, then used the predicted price as an independent variable in their regression of utilization, including users only. Again there are substantial methodological differences with the other studies, so it is difficult to determine whether the congruity is confirmation of the Keeler et al. results, or simply fortuitous.

Our tentative conclusion is that the Keeler et al. results provide the best available estimates of the effect of copay on utilization. The question remaining is whether these results provide sufficiently accurate estimates of the effects of copay on users and utilization for the Medicare model. We have three serious **reservations** about their applicability. First, since they were obtained using data for those individuals whose annual expenditures were not expected to exceed the \$1,000 out-of-pocket limit, they are estimates of the effect of copay for fairly low users of mental health benefits. For the evaluation we need to know the effect of copay for high users, so these estimates could be very inaccurate. We would like to see evidence that the effect of copay on utilization by users does not depend on the level of utilization, but have not found any. Second, since all experimental subjects were non-elderly,

we do not know whether these estimates are appropriate for Medicare beneficiaries. We would like to see evidence that the effect of copay on utilization does not depend on the age of the population, but have not. Third, we are also concerned about the precision of the estimates. While the sample size for the Keeler et al. analysis is large (16,429 person years), the number of users of mental health services within that sample is small (less than 4 percent), and of these only one-third did not exceed the out-of-pocket limit each year. Thus, there are only several hundred observations with both positive mental health use and annual out-of-pocket expenses below the limit.

One other study deserves mention because of its applicability to the Medicare population: the Medicare Mental Health Demonstration (MMHD). As discussed elsewhere in this report, the usefulness of the MMHD for answering the evaluation questions is limited for a number of reasons. We summarize the problems that are most pertinent to estimating the effect of copay on utilization below.

In the MMHD, Medicare beneficiaries who visited non-randomly selected mental health clinics and providers were given waivers from some Medicare rules, beginning in 1985 and ending two years later.\* These waivers included a waiver from the special outpatient mental health copay (effectively reducing the copayment for outpatient mental health benefits from 50 percent to 20 percent), an increase in the annual **limit** on outpatient benefits from \$250 to \$750 for half the clinics and providers, and complete removal of the annual limit for the other half. The demonstration was evaluated by comparing utilization at the clinics in the two-year demonstration period to both: 1) utilization at the same clinics in the two years prior to the demonstration, and 2) non-demonstration control clinics that were matched to the demonstration clinics by various characteristics. Utilization at the latter was measured only during the two-year demonstration period.

The evaluation shows very large effects on utilization, measured by number of visits, at the demonstration clinics. To illustrate the magnitude of the changes, demonstration clinics that were subjected to the \$750 limit experienced, on average, a 477 percent increase in visits, and clinics that were not subjected to the \$750 limit experienced a 696 percent increase.<sup>9</sup> Careful analysis of these data might allow estimation of the separate effects of the

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<sup>9</sup>The discussion of the MMHD is based on Jansen et al. (1985).

<sup>9</sup>These percentages are based on data found in Exhibit 89, p. 265, of Jansen et al. (1985). Only visits to Community Mental Health Centers and Ambulatory Mental Health Centers were used to obtain the percentages.

change in copay and the increase in the limit, but an important feature of the study design would make the results of such an analysis of little use for our purposes: the waivers were given to clinics and providers, not to beneficiaries. As a result, beneficiaries could choose to obtain the waivers by choosing to obtain services in the demonstration clinics; in effect, they were choosing their insurance policy as well as their provider. Hence, much of the large observed effects may be explained by biased selection: Medicare users of mental health services were simply looking for the most favorable insurance available to them. Thus, the demonstration can tell us little about what would happen to utilization if comparable waivers were applied to all Medicare beneficiaries.

## **(2) Effect of Cost-Sharing on Utilization of Inpatient Mental Health Services**

McGuire (1989b) also reviews the substantial literature on the effect of supply-side cost sharing on utilization of mental health services. Utilization is measured in terms of either expenditures or length of stay (LOS). The studies examined compare utilization under plans that have 100 percent provider cost-sharing at the margin, such as Prospective Payment Systems and HMOs, to plans that have less than 100 percent cost-sharing. Most find significant reductions in utilization per user, but very little impact on users.

The studies that are of most relevance to the development of a Medicare simulation model are the studies of the effects of the introduction of PPS for Medicare on LOS. Guterman and Dobson (1986) reported that LOS for Medicare beneficiaries fell an average of nine percent in FY1984. The Prospective Payment Assessment Commission (ProPAC, 1986) estimated an eight percent reduction in the first year.

Psychiatric hospitals and psychiatric wards at general hospitals are not covered by PPS. The only psychiatric patients covered by PPS are those in scatterbeds at general hospitals. Taube et al. (1986) analyzed an NIMH data base on use of mental health services by Medicare beneficiaries in general hospitals and found a 14 percent drop in LOS over all inpatient stays in the first year of PPS. Additional analysis of the same data by Frank et al. (1987) suggested a somewhat higher drop -- from 13 to 17 percent.

The TEFRA reimbursement system that applied prior to the introduction of PPS (see Chapter 3) already included some supply-side cost sharing for inpatient care; a hospital below its TEFRA cost per admission limit bore 50 percent of marginal costs, and a hospital above its limit bore 75 percent. Further, some PPS beds are covered by the outlier provisions of PPS, which place less than 100 percent of the burden of marginal costs on hospitals. Hence, the

finding of a reduction in LOS of 15 percent or so given, at most, a 50 percent increase in the supplier's share of marginal costs suggests, by extrapolation, that an increase in cost-sharing from zero to **100** percent would reduce LOS by at least 30 percent. Note that the in Company X model the same change would reduce utilization of inpatient care by 35 percent.

More recently, Freiman et al. (1989) analyzed two years of post-PPS data (**FY1984** and FY1985). They restricted their analysis to general hospitals without psychiatric units in order to eliminate the possible selection bias that could result from hospitals putting their most difficult cases in exempt psychiatric units and their least difficult cases in scatterbeds. The additional year of data allowed them to obtain a more complete picture of the effect of PPS on LOS. They find reductions in LOS that were, on average, somewhat higher than those found in the earlier analyses, but the size of the effects varied depending on the specification. The reductions in LOS ranged from almost **11** percent to almost 36 percent in not-for-profit hospitals, and from almost 16 percent to over 31 percent in for-profit hospitals.

(3) Effect of Expansion of Coverage to Non-physician Providers

We have identified five studies that have attempted to estimate the effect of extending Medicare coverage to clinical psychologists (**CPs**), clinical social workers (**CSWs**), or both. Unfortunately, there seems to be little consistent and reliable evidence about the effect of the expansion in coverage, despite substantial investments that have been made in addressing this issue.

The first of the five studies is the Medicare Mental Health Demonstration. The results of that demonstration have little or no information that can be used for calibrating an extended simulation model which distinguishes between physician and non-physician providers for the same basic reason that it provides no useful information about the effect of copay: Medicare beneficiaries elected to receive benefits for coverage by the very act of visiting one of the few clinics and independent providers that participated in the demonstration.

The next three studies all found that expansion of coverage had little or no effect on utilization of mental health benefits. However, certain features of the studies suggest that these results may grossly under estimate the actual effect of extending Medicare coverage.

**The** first of the three studies is the Colorado Expanded Mental Health Benefits Experiment. A sample of Medicare eligible individuals were randomly assigned to four insurance groups. Insurance coverage varied by copay rate (**20** percent or 50 percent) and



by whether or not psychologists' services were covered. Neither the copay rate nor the extension of coverage to psychologists had a substantive effect on utilization. In fact, the net change in cost per eligible beneficiary in the experiment was only \$0.65 per year. McCall et al. (1983) **point out** that only 12 percent of the individuals selected to be in the experiment had even a vague knowledge of their selection and suggest that this accounts for the very low change in utilization. **McGuire** and Frank (1986) point out that Colorado was a "freedom of **choice**" state during the experiment period, and private insurers were required to reimburse for mental health services provided by qualified non-physician providers. Further, private insurers were required to offer up to **\$500** per year in mental health benefits. Since 85 percent of those in the experiment had supplemental private insurance, they already had mental health benefits that were more generous than those of Medicare.

**Fairbank** (1987) analyzed the effect of the extension of coverage to **CSWs** by Blue Cross/Blue Shield of Massachusetts in 1982. The extension was mandated by the state. He concludes that the extension "had no measurable effect on the likelihood that an eligible individual would use any outpatient mental health benefits." He attributes this result to the fact that Massachusetts already had a very abundant supply of reimbursement eligible providers; insurers were already required to include **CPs** in their coverage and there were very large numbers of psychiatrists and **CPs** per capita.

Haber and McCall (1989) review the results of the Clinical Social Workers Demonstration (CSWD). In this demonstration, outpatient benefits were extended to **CSWs** in the treatment area -- seven Southern California counties -- for 1984 and 1985. Northern California was to serve as the control area. Unfortunately, the evaluation of the CSWD was very incomplete because OMB refused to approve the collection of survey data from the Medicare population in the control and treatment areas. Analysis of actual utilization of **CSWs** by Medicare beneficiaries in the demonstration suggests that the expansion had little effect on utilization: only 1.6 percent of the aged Medicare population used mental health benefits, and of these only 5.8 percent used services of **CSWs**. For disabled beneficiaries, 9.7 percent used mental health services and, of these, 1.9 percent used CSW services. One reason that utilization may have been low is that **Medi-Cal**, California's Medicaid program, refused to extend its supplemental coverage to **CSWs**. Another reason may be that CSW services were covered by some **Medi-Gap** insurers, as **CPs** were in the Colorado Experiment; we do not know whether such coverage was required by state regulations. It is not possible to tell how many of those who used CSW services were substituting CSW services for psychiatrists' services and how many were not.

The final study is Fairbanks unpublished analysis for CBO, described in the introduction to this chapter. We will provide a more detailed description of this analysis when we receive the details from Fairbank.

(4) Partial Hospitalization

Despite an extensive search, we have been unable to find any published studies that address the responsiveness of partial hospitalization benefits to insurance benefits, with the exception of the Medicare Mental Health Demonstration which waived the exclusion of partial hospitalization from Part B benefits. As with the other waivers in the MMHD, the waiver applied only to participating providers. Hence, Medicare beneficiaries were effectively choosing their insurance coverage at the same time they were choosing their provider.

Leibenluft and Leibenluft (1988) cite trials of partial hospitalization coverage by three private insurers. One of these, conducted by Empire Blue Cross and Blue Shield in 1983, attracted so few users that it was discontinued. The other two projects were in process at the time of their writing. We may be able to include more information about these projects, and perhaps others, in our final report. However, the prospects for finding results that would yield accurate estimates of parameters for a simulation model are very slim.

(5) Reduction in Copay for Drug Management

We have been unable to find any estimates of the effects of reducing the copay for drug management on either the use of drug management services or other mental health services.

(6) Effects of Outpatient Mental Health Copay on Use of Inpatient Mental Health Services

There has been some research on the effects of reducing the copayment for outpatient mental health benefits on the use of inpatient mental health services. McGuire (1989b) reviews this research and concludes that 'Research on cross-price effects has not yielded reliable findings so far.'<sup>10</sup>

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<sup>10</sup>McGuire (1989, p. 101).

To illustrate the, potential importance of the effect, McGuire compares the average insurance costs per employee in two companies that have similar, generous benefits for inpatient mental health care, but dissimilar benefits for outpatient care. “Company A” has a 50 percent copay rate for outpatient benefits and “Company B” has a 30 percent copay. Other features of Company B’s outpatient benefits are also more favorable. Company B’s costs per employee for outpatient benefits is about twice that of Company A’s, but Company B’s costs of inpatient benefits are half that of Company A’s. Since costs of inpatient benefits exceed those of outpatient benefits, Company B’s costs per employee are actually lower than those of Company A’s, by about 20 percent. Of course, these differences could be explained by characteristics of the employees and the providers that **serve** them, rather than by the differences in policy features.

**McGuire** (1989b) discusses one other study of the effect of a reduction in copay for outpatient mental health services on utilization of inpatient mental health services. Scheffler and Watts (1988) used data from federal employee files for 1979, 1980, and 1981. Employees in the high option plan were subject to a 20 percent copay for outpatient mental health benefits in the first two years, and a 30 percent copay in the third year, while employees in the low option plan were subject to a 25 percent copay in the first two years and a 40 percent copay in the third year. They estimated regression models with dummy variables for the change in copay and with a price variable constructed from regional data for the costs of psychiatric services, including only observations for those who had positive use. The dependent variable in this model was a measure of outpatient mental health services expressed as a share of all mental health services used. Their results imply that increases in outpatient mental health benefits increase utilization of inpatient services; however, the results were not statistically significant and many problems with the data and specification suggest that they are not very meaningful.

**(7) Effects of Outpatient Mental Health Benefits on Use of Non-Mental Health Services (Offset Analysis)**

The best estimates of the effect of the copay for outpatient mental health benefits on utilization of non-mental health services come from the **Rand** Health Insurance Study (HIS). These are presented in Manning et al. (1988). This analysis compared non-mental health expenditures in plans with a **50** percent copay for mental health benefits to those in plans with a 25 percent copay, and found, surprisingly, that they were somewhat higher in the latter; the

lower mental health copay appears to -have increased utilization of non-mental health services.” However, the standard errors are large and the analysis suffers from the same problem as the early analysis of the effects of copay on the use of outpatient mental health utilization: the effect of the \$1,000 out-of-pocket limit on utilization is not taken into account. Individuals who had reached the limit had the same copay at the margin and a larger percentage of individuals in the higher copay plan had reached the limit because of the higher **copay**.

In related analysis of the HIS data, Wells et al. (1987) found that the copay for mental health benefits had little effect on the number of individuals who received mental health care from general physicians (non-psychiatrists), but this result is suspect for the same reason. They also found that about 50 percent of all users of mental health services obtained their services from general physicians, but these **services** only accounted for about 5 percent of all mental health services because of their low intensity. Thus, there does not appear to be much scope for substitution of mental health services provided by mental health specialists for those provided by general physicians. This does not necessarily imply that the potential for offset is low since there remains the possibility that increases in mental health benefits will reduce utilization of non-mental health services provided by general physicians and others.

**Mumford** et al. (1988) performed a **meta-analysis** of 58 controlled studies in which the effects of some type of mental health treatment on utilization of other medical services were examined. In many of these studies, some form of mental health service was given in conjunction with treatment for a non-mental health problem. Of these studies, 22 were experimental. in design, with patients assigned to control and treatment groups either randomly or by some matching scheme; treatment group patients received the supplementary mental health service and control group patients did not. All of these studies were in an inpatient setting. Length of stay was approximately 17 percent shorter for the average treatment group patient than for the average control group patient. **Five** studies allowed comparison of offset effects in inpatient and outpatient settings. For these studies, the reduction in the measure of inpatient utilization was about three times as large as the reduction in the measure of outpatient utilization, suggesting that offset effects are substantially larger in an inpatient setting.

Most of the studies examined only included patients who were under the age of 65; a few included some patients between the ages of 65 and 75. In order to provide some

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“Individuals in both plans had a 25% copay for non-mental health outpatient benefits.

information about the relevance of these results to the elderly, the authors examined the relationship between the average age of patients in the studies and the effect of mental health treatment on utilization of other medical services. They found a simple correlation of **.44** between average age and the size of the offset effect in 15 inpatient studies; i.e., the estimated offset effect tends to be larger for older patients. In four outpatient studies they found a correlation of **.31**, and in four alcohol outpatient studies they found a correlation of **.78**.

Thus, the **meta-analysis** suggests that the elderly who use mental health services will experience a reduction in their use of other medical services of roughly 20 to 25 percent. One weakness of this estimate is that it applies to persons who were assigned by researchers to treatment. We do not know whether it applies to those who choose to seek treatment on their own, and it is the effect on utilization of such individuals that is relevant to the expansion of mental health benefits. If those who choose to obtain mental health services are the most likely to benefit from them, then the size of the offset could be considerably larger.

**Mumford** et al. also analyze claims data from the Blue Cross and Blue Shield Federal Employees Program, for the years 1974 to 1978. In this analysis they compare the average use of mental health services and other medical services of persons who initiated utilization of outpatient mental health services in 1975 to a control group of persons who had at least one claim in 1975, but no claims for mental health services during the entire five-year period. Persons who used inpatient mental health services were excluded from the study. Their results show that medical charges for treatment group members declined by about 25 percent per year relative to charges for control group members once the treatment was started, and the reduction in charges is almost entirely due to a reduction in inpatient charges. They examine whether there is a relationship between the estimated size of the offset and age, and find that the offset is substantially larger for those age 55 and over than for those in younger age groups; relative to the control group patients, average inpatient charges for treatment group patients in this age group fall by about \$150 per year by the end of the period examined -- an offset of more than 50 percent.

An offset study by Motter and Schmitt (**1987**), which is not among the studies used for the **meta-analysis** of **Mumford** et al., deserves special attention because it focuses on Medicare beneficiaries. This study was part of the evaluation of the Medicare Mental Health Demonstration (MMHD). As discussed earlier in this section, the evaluation design of the MMHD makes it difficult to draw conclusions about behavioral responses to changes in mental health benefits, and this statement applies to the analysis of offset effects as well.

The evaluators conclude that there is substantial partial offset, especially for some diagnoses, some classes of patients, and some types of service. In the aggregate, demonstration participants spent \$194 per month in the months immediately prior to entering the demonstration, and \$276 per month during the demonstration, of which \$67 was for demonstration **services**.<sup>12</sup> Nationally, recipients spent \$190 per month in the prior period and \$246 per month in during the demonstration. If the national change of \$56 is used as an estimate of the change that would have been observed for the participants had they not been in the demonstration, then the net change in demonstration expenditures attributable to the demonstration was  $\$276 - \$194 - \$56 = \$26$ . Since the total cost of demonstration services themselves averaged \$67, \$41 of this cost, or 61 percent, appears to have been offset by reductions in utilization of non-demonstration services. While some of the non-demonstration services were mental health services, expenditures on these fell by an average of only one dollar per patient from the prior period to the demonstration period. Hence, the 61 percent offset is almost entirely due to reductions in utilization of physical health services.

We are skeptical that this estimate of the average offset, as well as other estimates of offsets for particular groups of patients, accurately reflect the size of the true offset. There are numerous problems with the analysis, many of which are technical data problems. While the evaluators consider the technical data problems and some other problems with great care, they overlooked an essential feature of the evaluation design that makes it impossible to interpret the results; i.e., that participants are self-selected. In addition, participants chose when to join the demonstration, and for the analysis the dividing line between the 'prior' period and the 'demonstration' period for each participant was determined by the date on which they choose to enroll. We should not be at all surprised that participants have very high medical expenditures at the time they enter the demonstration since for many the motivation to join is likely to be that they are suffering from an acute mental illness. The fact that their average expenditures went up by less than the cost of the demonstration treatment is no doubt due to improvement in their health, but we do not know what average expenditures for participants would have been had they been unable to join the demonstration. Expenditures may have increased for some, remained constant for others, or and declined for still others. The average experience of other Medicare beneficiaries in the country, many of whom did not have an acute illness of any kind prior to the demonstration, tells us little, if anything, about what average expenditure for demonstration participants would have been had they not been allowed to join the demonstration. The 61 percent offset may

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<sup>12</sup>This figures are from Exhibit III-7 on page III.13 of **Motter** and Schmitt (1987).

understate or overstate the true offset, or it may be fortuitously correct, but we **have** no way of knowing.

In summary, there is considerable evidence that offset effects exist, and the most extensive review of the literature to date suggests that use of mental health services reduces use of non-mental health services by, on average, about 20 percent. The evidence suggests that offset effects tend to be larger for the elderly, but we have little information about how much larger. The evidence also indicates that the size of the offset effect varies considerably by both diagnosis (mental and physical) and type of service.

#### **6.5. Calibrating a Medicare Model**

Our review of the empirical research indicates that existing research on behavioral responses to changes in mental health benefits is not adequate to accurately estimate the parameters of a Medicare simulation model that would be capable of addressing all of the questions of the evaluation. There is, however, substantial evidence about some important behavioral responses to improvements in mental health benefits:

1. Reductions in copayment rates for outpatient mental health services do increase utilization. The best estimates indicate that a reduction from 100 percent to zero increases utilization about **50%**, but there remains considerable uncertainty about the accuracy of this estimate, especially as it applies to the elderly.
2. Supply-side cost sharing reduces the use of inpatient mental health services. Estimates for the elderly indicate that an increase in cost sharing from somewhat over 50 percent to somewhat under 100 percent reduces length of stay by anywhere from 10 to 35 percent, depending on various factors.
3. Increases in use of mental health services often result in a reduction in use of physical health services, with typical savings on physical health services equal to about 20 percent of expenditures on mental health services. The size of this saving is probably higher for the elderly, but we do not know how much. The size of the saving also varies greatly by diagnosis and procedure.

Some information is available about other effects, but there is little or no consensus about their size.

While considerable uncertainty remains about response magnitudes and the applicability of these results to the elderly, a Medicare model which reasonably captures these behavioral responses could be constructed. A more careful analysis of the existing literature

might help narrow the range of acceptable estimates. Incorporating responses to expansion of coverage to clinical psychologists and clinical social workers could also be considered, but the evidence about these responses is considerably weaker. We have found no evidence about the possible effects of changes in the copay for drug management or the extension of Part B benefits to partial hospitalization.

Once the structure of a Medicare model is developed **and** estimates for the behavioral parameters are specified it will be necessary to estimate the distributions of full insurance outpatient and inpatient utilization ( $U$ , and  $D_o$ ). As described in the second section of this chapter, it is straightforward to find these distributions once the model parameters are estimated, *provided that the full distribution of actual utilization is observed under the current insurance plan*. In the absence of such information, these distributions can only be estimated by making restrictive distributional assumptions (see **McGuire**, 1991).

The HCFA claims data can be used for this purpose, provided that the share of all mental health services for Medicare beneficiaries which are represented in these claims approaches **100** percent. This was undoubtedly not true prior to the changes in Part B mental health benefits for two reasons: partial hospitalization programs and independent **CPs** and **CSWs** could not file claims and there was a reduction in the incentive for beneficiaries and providers to file claims once the annual benefit limit was reached. How serious these problems are is uncertain since the number of beneficiaries who used partial hospitalization programs or independent **CPs** and **CSWs** may have been small. Further, beneficiaries who had exhausted their benefits would in some cases not know they had done so, or not tell their provider, and in other cases would have filed for benefits in order to provide evidence to another **payor** that their Medicare benefits were exhausted.

The expansion of benefits should have substantially increased the proportion of services represented in the claims data. In the absence of evidence to the contrary, for practical purposes the assumption of virtually **100** percent representation appears warranted. Note that the required distributions can be obtained given the behavioral parameters and any set of actual plan features. Thus, it is just as appropriate to estimate these distributions under the current mental health benefits as under the earlier benefits. Since the problem of unrepresented utilization is expected to be substantially smaller under the current benefits than under the earlier benefits, and since full representation is required in order to calibrate the model without making additional restrictive assumptions, it would be best to use current claims data for this purpose.



## 6.6. Summary and Recommendation

There already exists a prototype, namely the **McGuire** model, for a Medicare simulation model. Substantial extensions of the prototype model would be necessary in order to answer many of the evaluation questions. While the mechanics of such extensions are not prohibitive, we do not have enough information to determine reasonable estimates of all the parameters in such a model.

There is substantial evidence about some important behavioral responses to improvements in mental health benefits: (1) the effects of copay on utilization of outpatient mental health services; (2) the effects of supply-side cost sharing on use of inpatient mental health services; (3) and the effects of utilization of mental health services on the **utilization** of other medical services. Limited, and often conflicting, information is available about the effects of expansion of coverage to non-physician providers, the effects of extending benefits to partial hospitalization programs, and the effects of copayments for outpatient mental health services on utilization of inpatient mental health services. We have found no studies of the effects of changes in the copayment rate for drug management.

As a **result** of the lack of information about some important behavioral responses, we recommend against the development of a full-fledged Medicare model (i.e., a model that could address all of the evaluation questions). We recommend that further consideration be given to the development of a more limited model, that takes into account the three behavioral responses for which reasonably good information is available, once the initial evaluation is complete.

A limited model would be very helpful for analyzing the effects of removing the annual limit on outpatient benefits. It would also provide a way to answer questions about some hypothetical policy changes, such as a simultaneous reduction in the outpatient mental health copayment rate and reinstatement of the annual payment limit. Thus, the utility of such a model would go beyond the immediate objectives of **the** evaluation. Since the model would embody the state of our knowledge about behavioral responses, it would **serve** as a focal point and guide to developing our knowledge in the future, and would be a base on which we could build as our knowledge continues to improve.

If a model is developed, **it** should be stratified by characteristics of Medicare beneficiaries, such as entitlement status, age, sex, and urban/rural. It may be necessary to

use the same behavioral parameters in all strata, but at least the full insurance outpatient and inpatient utilization distributions can be fit to claims information from each strata.

Given the **uncertainties** about the behavioral parameters, sensitivity analysis **becomes** an essential component of any simulation. In such analysis, the effects of changing each behavioral parameter over a reasonable range of values would be considered. Changes in combinations of the parameters should also be considered, **since** the effects of changing two or more parameters may be different than the sum of the effects of the individual changes; often the effects are multiplicative.

## CHAPTER 7

### THE SUPPLY OF PROVIDERS

#### 7.1 Introduction

One of the analysis topics in the tracking study is:

##### **1.D Are utilization and changes in utilization in an area related to the number of mental health specialists per capita?**

In order for the tracking study to answer this question, it will be necessary to develop measures of provider supply by geographic area and then match observations in the National Claims History (NCH) data to these areas and their associated provider supply data. In Section 7.2 we describe the detailed data available on provider supply. In Section 7.3 we discuss how the detailed data could be used in the tracking study.

#### 7.2 Provider Data

A compilation of provider data appears in Chapter 4 of the **NIMH** report Mental Health, United States, 1990 (Dial et al., 1999). Table 4.4 from that report is reproduced as Exhibit 7.2.1. The table shows the number of 'clinically active' psychiatrists (**1982**), psychologists (**1989**), and social workers (1989) by region, as well as the number per hundred thousand residents.<sup>1</sup> The table also includes empty columns for psychiatric nurses and psychiatric nurses per capita for 1989; while some data on nurses do exist for 1989 and summaries appear elsewhere in the report, the data are not adequate for the purposes of this table. We discuss the sources and methods used to construct the data for each provider type in the remaining parts of this section. The discussion is based on Appendix C of the **NIMH** report, where additional details can be found. We also include information about professional association membership lists.

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<sup>1</sup>The definition of 'clinically active' varies across provider type.

## EXHIBIT 7.2.1

Number and rate per 100,000 resident population of clinically active mental health personnel,  
by discipline, United States and each State, for specified year<sup>1</sup>

Region and State	Discipline and year							
	Psychiatry 1982		Psychology 1989		Social work 1989		Psychiatric nursing 1988	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
United States total <sup>2</sup> ....	29,425	12.7	• 1a	16.7	67,327	27.2	NA	NA
New England .....	2,802	22.5	3,950	30.4	7,408	57.0		
Connecticut .....	752	23.8	830	25.5	1,584	48.6		
Maine .....	118	10.4	220	18.3	474	39.4		
Massachusetts a .....	1,603	27.8	2,350	40.1	4,165	71.0		
New Hampshire ....	113	11.9	230	20.6	437	39.2		
Rhode Island .....	130	13.6	170	17.1	533	53.5		
Vermont .....	86	16.6	150	26.9	215	38.6		
Middle Atlantic .....	7,402	20.1	8,890	25.7	16,382	43.8		
New Jersey .....	991	13.3	1,480	18.9	3,050	391)		
New York .....	4,820	27.3	5,310	29.9	10,450	58.8		
Pennsylvania .....	1,591	13.4	2,100	17.7	2,882	24.3		
East North Central ....	3,925	9.4	5,890	14.0	12,471	29.7		
Illinois .....	1,208	10.5	1,770	15.3	4,059	35.0		
Indiana .....	305	5.5	600	10.8	1,203	21.8		
Michigan .....	1,053	11.6	1,170	12.6	3,722	40.2		
Ohio .....	944	8.7	1,700	15.8	2,244	20.8		
Wisconsin .....	415	8.7	650	13.5	1,243	25.9		
West North Central ...	1,434	8.3	2,310	13.1	4,034	22.8		
Iowa .....	161	5.6	210	7.8	331	19.1		
Kansas .....	305	12.7	320	12.9	655	26.4		
Minnesota .....	326	7.9	770	17.9	1,173	27.3		
Missouri .....	451	9.2	680	13.2	1,241	24.0		
Nebraska .....	110	6.9	190	11.9	255	16.0		
North Dakota .....	41	6.1	80	12.0	92	13.9		
South Dakota .....	40	5.8	60	8.5	87	12.3		
South Atlantic .....	4,620	12.1	6,210	14.4	9,433	21.9		
Delaware .....	82	13.6	100	15.2	138	21.0		
District of Columbia	483	73.2	480	78.0	487	79.2		
Florida .....	1,029	9.9	1,510	12.0	2,038	16.3		
Georgia .....	493	8.7	790	11.8	895	13.7		
Maryland .....	998	23.3	1,280	27.0	2,448	52.5		
North Carolina .....	523	8.7	820	12.4	1,132	17.1		
South Carolina .....	225	7.1	240	6.8	455	13.0		
Virginia .....	688	12.6	910	15.0	1,644	27.1		
West Virginia .....	104	5.3	120	6.4	196	10.5		
East South Central ....	872	5.9	1,320	8.5	1,751	11.3		
Alabama .....	191	4.9	260	6.3	396	9.5		
Kentucky .....	116	4.6	270	8.5	488	13.0		
Mississippi .....	313	6.7	160	6.0	156	5.8		
Tennessee .....	252	6.8	630	12.8	712	14.4		

# EXHIBIT 7.2.1 (Continued)

Number and rate per 100,000 resident population of clinically active mental health personnel, by discipline, United States and each State, for specified year<sup>1</sup> (continued)

Region and State	Discipline and year							
	Psychiatry 1982		Psychology 1989		Social work 1989		Psychiatric nursing 1988	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
West South Central ....	1,929	7.6	2,670	9.7	4,028	14.6	NA	NA
Arkansas .....	120	5.2	160	6.6	251	10.4		
Louisiana .....	351	8.0	290	6.4	989	21.9		
Oklahoma .....	188	5.9	280	8.5	513	15.6		
Texas .....	1,270	8.3	1,940	11.1	2,275	13.0		
Mountain .....	1,153	9.6	2,380	17.3	2,980	21.7		
Arizona .....	270	9.5	730	20.0	763	20.9		
Colorado .....	475	15.6	740	21.8	1,051	30.9		
Idaho .....	35	3.6	90	8.9	122	12.0		
Montana .....	37	4.6	110	13.6	119	14.7		
Nevada .....	66	7.5	130	12.4	255	16.0		
New Mexico .....	134	9.9	260	16.3	253	15.9		
Utah .....	116	7.5	250	14.3	368	21.0		
Wyoming .....	20	4.0	70	13.9	49	9.7		
Pacific .....	5,288	15.9	7,640	20.2	8,840	23.5		
Alaska .....	38	8.6	80	14.2	171	30.3		
California .....	4,334	17.5	6,110	21.4	6,176	21.6		
Hawaii .....	163	16.4	200	17.8	357	31.8		
Oregon .....	285	10.8	500	18.2	856	31.1		
Washington .....	468	11.0	750	16.3	1,280	27.7		

<sup>1</sup> State population estimates were taken from U.S. Bureau of the Census, *Current Population Reports*, for specified year.

<sup>2</sup> Totals by discipline reported in this table are less than totals for other tables on clinically active mental health personnel due to missing data, exclusion of U.S. territories, and exclusion of U.S. military personnel and other citizens residing overseas.

NA = Data not available in this form.

Source: Dial et al. (1990, Table 4.4).

## A. Psychiatrists

The data on psychiatrists come from analysis of the **1982-83** Professional Activities Survey (PAS) conducted by the American Psychiatric Association. Questionnaires were sent to all psychiatrists who were listed in the Association's Masterfile, which included 26,835 association members and 11,284 non-members. The response rate was 61.4 percent. Of the respondents, 92.3% were identified as being "active in **psychiatry**," and of these, 97.1 percent were clinicians. The Association developed weights to convert respondents to national population distributions on the following characteristics: sex, year of medical school graduation, place of medical education, primary employment setting, and principal professional activity. The data in the table are based on analysis of weighted data for clinicians who are active in psychiatry.

The Association's **Masterfile** is updated continuously and can be purchased from the Association for a nominal fee, on magnetic tape. The file includes information on clinical services offered and limited additional practice information. Thus, while it does not include all of the information that is available in the 1982-83 survey, it includes some information that would help distinguish between practicing clinicians and others. The file can be sorted by zip code, which would make it a relatively simple matter to match providers to claims data on Medicare patients.\*

The Area Resource File (ARF) of the Bureau of Health Professionals contains data on psychiatrists at the county level. Our understanding is that the **ARF** data are based on data from the American Medical Association's (AMA's) Masterfile. We have not seen an analysis of how these data compare to the American Psychiatric Association's data. Note that the ARF data would not be useful if 3digit **zipcode** areas are used rather than counties, as discussed later in this chapter.

## B. Psychologists

The psychologist data are from an analysis of a 1989 American Psychological Association member survey and the 1983 **Census of Psychological Personnel**. The

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<sup>2</sup>The information in this paragraph is based on a telephone conversation with Sharon Cohen of the American Psychiatric Association, and on a brochure that describes the Masterfile for prospective purchasers.

Association conducts the member survey every four years. The latter survey was funded by the Health Resources and Services Administration (HRSA) and was conducted by the Association. The 1989 data were used to obtain information about Association members in 1989, and the 1983 data were used to impute information about non-members in 1989.

In order to be counted as clinically active, a psychologist had to: (1) be a U.S. resident; (2) hold a Ph.D.; (3) be licensed to practice **psychology** independently by one or more state licensure boards; (4) be currently employed; and (5) report spending one or more hours per week in the provision of health and mental health services.

Of the Association members in the 1989 survey, 73.3 percent returned the survey. The response rate among members who were qualified to provide mental health services was higher, 79.3 percent. Of all respondents, 77.6 percent were found to be clinically active. This percentage was applied to the number of members in each state to estimate the number of clinically active members in each state.

The 1983 Census of Psychological Personnel showed that 73.2 percent of all doctoral providers in psychology were Association members? The 1989 estimate of the number of Association members in each state was divided by this percentage to get an estimate of the number of Association and non-Association clinically active psychologists.

Like the American Psychiatric Association, the American Psychological Association maintains an updated membership list that includes limited **information** about the members. While this list is stored on magnetic media, the Association only markets a printed version.”

### C. **Clinical Social Workers**

The data on social workers is based on analysis of membership applications and renewals for the National Association of Social Workers (**NASW**). For the purposes of constructing the table, only those members who held a masters or higher degree and who were actively employed in providing mental health services were counted. No attempt was made to impute the number of non-member social workers in each state, but the report notes

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<sup>3</sup>See Stapp et al. (1985) for detailed analysis of the 1983 survey.

‘Information in this paragraph was based on a telephone conversation with Amy **Rabinoff** at the American Psychological Association.

that in 1990 about 70 percent of all master's or doctoral level social workers in the United States were members.

NASW also keeps an updated membership list with limited information on providers. While the list is stored on magnetic tape, NASW only markets a printed version.'

### 7.3 Plan for Using the Provider Data in the Tracking study

The recommended plan for using detailed provider data is described in the first part of this section. A variety of issues and alternatives are discussed in the second part.

#### A. Description of the Plan

The plan includes developing four measures of provider supply (total, psychiatrists only, psychologists only, and social workers only) for specific geographic areas, and then merging these measures with the claims data. At the end of this process, the record for each individual in the claims data will include the supply measures for the area in which he or she resides. For analysis topic **1.D**, the evaluator will construct tables of the utilization measures (see the Chapter 4 discussion of analysis topic **1 .D**), broken down by each of the provider supply variables.

We recommend that the mailing lists of the three professional organizations be used to construct the measures of provider supply. If possible, the mailing lists for 1990 -- the year before completion of the extension of benefits to **clinical** psychologists and clinical social workers -- should be obtained. These lists provide limited information about the employment of each person on the list, and this information should be used to remove individuals who are clearly not providing clinical mental health services. If possible, the lists should be obtained on electronic media, or the organizations themselves should be asked to assist the evaluator in constructing the supply measures. We know that the American Psychiatric Association's list can be purchased on magnetic tape. Representatives of the other two organizations have expressed a strong interest in the evaluation and a willingness to be helpful, so we have every reason to expect that the proposed analysis of the lists will not be excessively difficult or **costly. For psychologists, a reasonable, and perhaps preferred, alternative to use of the mailing list would be use of their 1989 survey data.**

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'Information in this paragraph was obtained in a telephone conversation with Sandra Harding at NASW.



The data to be **used** for psychiatrists includes psychiatrists who are not members of the American Psychiatric Association, whereas the data for psychologists and social workers include only those who are members in their respective associations. As discussed in the previous section, approximately 70 percent of psychologists and social workers are members. We recommend boosting national estimates of the number of psychologists and social workers by a uniform 30 percent (the percentage by which they are undercounted) so that their national supply estimates will be comparable to that of the psychiatrists. It would be misleading to use the same procedure for reporting estimates in three-digit zip code areas because the percentage of non-members for both types of providers may vary dramatically across areas.

We also recommend that three-digit zip code areas be used as the basic geographic unit of analysis. The average state is divided into ten such areas. Additionally, each large city has its own three-digit number and is surrounded by another three-digit area, therefore, persons living in the surrounding three-digit area can easily be assigned provider supply based on both their three-digit area plus the three-digit area of the large city to which most persons could easily travel for mental health care. Therefore, the number of providers within each three-digit area should be counted, and the counts for each large city should be aggregated with the count for the three-digit area which surrounds it. The output of this step should be a file in which there is a single record for each three-digit zip code area that includes the three-digit code, the number of providers of each type, and the three-digit codes for any large cities that are encompassed and contributed to the provider supply number.<sup>6</sup>

Data from the 1990 Census should be used to estimate the population within each three-digit zip code area. The population estimates would then be merged with the results of the provider supply tabulations. Three final measures of provider supply for each area would then be calculated by dividing the number of providers of each type as well as the total number of providers in the area, by the population. The output of this step will be a file in which there is a single record for each three-digit zip code area that includes four final measures of supply (total, psychiatrists only, psychologists only, and social workers only) and the three-digit zip codes for all large cities included in the provider supply estimates for that three-digit zip code area. This file would then be augmented by adding individual records for each city with a three-digit code, so that beneficiaries who actually live within the large city

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<sup>6</sup>**Some** three-digit areas are served by a common postal distribution center, in some cases across state lines, and it would be reasonable to aggregate these. See U.S. Postal Service (1991).

can be assigned the provider supply measures for the city and its surrounding three-digit zip code area. The supply measures in each large city record will be identical to the supply measures for the three-digit area which surrounds the city. This final “supply file” should be merged with the claims data, by three-digit zip code.

The evaluator should then compute frequency distributions for each of the four provider supply variables, using relatively narrow ranges. The results **of** these distributions should be used to choose appropriate supply ranges for the provider supply analysis. We suggest that approximately five provider supply categories be chosen for the final analysis, with an approximately equal number of zip code areas in each cell. These five categories would be something like: high supply, moderate supply, average supply, below average supply, and low supply. This will result in **five** categories for each of the four measures of provider supply: total, psychiatrists only, psychologists only, and social workers only. The provider supply analysis would then be conducted for each of the four measures of provider supply. Since this method of category construction uses relative numbers of providers in each specialty, it implicitly takes account of the fact that, at the national level, the estimates of the numbers of **clinical** psychologists and clinical social workers are low relative to the number of psychiatrists by about 30 percent. Unfortunately, however, some areas will be misclassified for these two specialties because the number of association members in any given area may deviate substantially from the national average of 70 percent for each of the two specialty areas.

Some consideration should be given to collection and analysis of provider data for additional years. Whether this is feasible depends on the availability of mailing lists for other years. Supply data for other years would allow the evaluator to determine whether the expansion of Part B mental health benefits encouraged suppliers to locate in previously **underserved** areas.

## **B. Discussion**

Several choices were made in the development of the plan described in the previous part of this section. Each of these is discussed below.

### **1. Provider Data**

One alternative to using the mailing lists for psychiatrists would be to use the data from the **1982-83** Professional Activities Survey. The advantage of this survey over the mailing list is that it provides substantially more information about the respondents that would be useful in

separating clinically active psychiatrists from others. For psychologists, the **1983 Census** of Psychological Personnel has the same advantage; in addition it includes information about psychologists who are not members of the American Psychological Association. The main disadvantage of these surveys relative to the mailing lists is timing; both occurred approximately eight years before the completion of the relevant policy change. The NASW list of members appears to be the only readily available source of information about social workers.

Another source of information about psychologists was considered for this plan: individual state psychology boards. The American Psychological Association collected data from state boards in 1987 and presented a state and county analysis of the supply of psychologists and psychiatrists to a Congressional committee, in support of expanding Medicare coverage to independent providers (Welch, 1989). They used the data along with data from the American Medical Association's 1985 Area Resource File to identify which counties in each state had psychologists and psychiatrists. It might be possible to collect comparable data about social workers from states. Such data would have the advantage of including non-members. Nevertheless, we do not recommend this approach because of the expected cost of collecting the data, and because there is little, if any, information about the current employment status of individuals who have been certified by a state.

## 2. **Geographic Areas**

Ideally, market area should be defined individually for each beneficiary represented in the claims data, so that it encompasses any area that is reasonably accessible to the individual. Obviously this is not feasible, so beneficiaries must be grouped by predetermined and definable boundaries, recognizing that many beneficiaries will have easy access to suppliers in geographic areas that are adjacent to the geographic area they live in. The practical choices for geographic areas are states, counties, and three-digit zip code areas. We rejected the use of states because most states are so large that the typical resident only has access to a small area of the state, and there may be considerable variation in supply within a state. Counties are a reasonable alternative, but the mailing lists do not identify counties directly. County data could be constructed by matching zip codes to counties, but the resulting classification would not be clearly superior to the zip code classification.'

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'An electronic list of **zipcodes** by county may be obtained from the U.S. Postal Service. One problem with matching counties to **zipcodes** is that some five-digit **zipcodes** cross county lines.

Therefore; we decided. that three-digit **zip** code area would be the most appropriate unit of analysis for the provider supply estimates.

Finally, it is not necessary to aggregate data from large cities with data for the surrounding three-digit zip code area, as we have recommended. The evaluator could do a careful, area-by-area analysis of which cities should be included with their surrounding area, but we expect that many decisions would be just as arbitrary. as the decision to include all cities with their surrounding area, and there would be very little, if any, payoff. In addition, it seems likely that city providers would be a major source of supply for persons living in the surrounding three-digit zip code area and that city residents would have ready access to providers located in the surrounding three-digit zip code area.

### 3. **Year**

Ideally, it would be desirable to construct provider supply data for each year of the tracking study. If a single year is to be chosen, 1990 is preferred because the final phase of the expansion of coverage to clinical psychologists and clinical social workers was implemented on September 1st of that year, although clinical psychologists working in certain settings were allowed to bill independently as early as 1987 (see Chapter 2). Another reason for choosing 1990 is that it is a Decennial Census year.

## **CHAPTER 8**

### **FUTURE USE OF PART B MENTAL HEALTH BENEFITS**

#### **8.1 Introduction**

This chapter presents our design for addressing the following evaluation questions:

- 5. How will utilization of Part B mental health benefits change with expected future changes in the Medicare population, including the increasing proportion of SSDI beneficiaries who qualify for SSDI due to mental illness?**
- 6. How will Medicare expenditures on outpatient mental health benefits change with the expected future changes in the demographic profile of the Medicare population?**

The primary motivation behind these questions is the recent doubling of the proportion of **SSDI** beneficiaries who qualify due to mental illness, as described in Chapter 3. This change could result in a substantial increase in the utilization of Part B benefits for many years into the future. Another motivating factor is that predicted changes in the age and sex composition of the elderly may have an effect on the use of these benefits. A final motivation is the expectation that utilization will increase as younger cohorts, who are more accustomed to using mental health services than current beneficiaries, age into the Medicare population.

In Section 2 we describe and discuss the methodology that HCFA employs to estimate future use of Part B benefits. In Section 3 we discuss how information obtained from the proposed tracking study and other sources can be used to forecast the future use of Part B mental health benefits.

#### **8.2 Current Forecasting Methods**

##### **A. Utilization of Mental Health Benefits**

At present, HCFA does not regularly forecast utilization of mental health benefits. Such forecasts are only done on an "as needed" basis, such as when the effect of proposed

legislation is being examined.’ HCFA first forecasts utilization under the current benefit structure, then estimates the effects of the proposed changes on the forecasts. **The** first step in developing a projection for particular benefits, such as mental health benefits, is to examine historical claims data on use of the benefit. For instance, when HCFA projected the effects of the changes in mental health benefits that are currently being implemented, they began by examining mental health claims from the Health Insurance Master Accretions (**HIMA**) file. All claims for outpatient mental health services were recorded in this file prior to 1989 because of the existence of an annual limit on benefits. Since the annual limit has been removed, mental health claims are no longer added to this file, so it would be necessary to analyze National Claims History (NCH) data if projections were to be made today.

The analysis of historical data would focus on estimating the trend in expenditures for the benefits in question as a percentage of total Medicare expenditures, using regression analysis. In the typical case, it would be assumed that observed trends in this percentage would continue over the period of the forecast. The trend projections of this percentage would then be applied to overall projections of Medicare expenditures to get projections of the level of Medicare expenditures for the benefit in question. The projections of total Medicare expenditures are based on projections of the number of Part B beneficiaries and on projections of expenditure per beneficiary. These projections are described in the next two parts of this section.

## **B. Part B Beneficiaries**

Projections of Part B beneficiaries are done separately for the elderly and for **SSDI** beneficiaries; the latter group is divided into those with and without end stage renal disease (ESRD). Subgroups defined by age, sex, or other characteristics are not considered. The projections for Part B beneficiaries are driven by projections for **Part A** beneficiaries. Specifically, HCFA first estimates the historical trend in the percentage of Part A beneficiaries who purchase **Part B** insurance, then applies trend projections of this percentage to projections of Part A beneficiaries.

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‘The discussion of **HCFA’s** current methodology is based on telephone conversations with two HCFA actuaries and examination of the 1992 annual reports of the Trustees for the Hospital Insurance and Supplementary Medical Insurance trust funds. The actuaries consulted are Carter Warfield, who is responsible for Part B projections, and John Wandishin, who is responsible for **Part A** projections.

Part A projections are driven by SSA projections of the elderly and **SSDI** populations. For the elderly, the Part A projections are done by sex and by five-year age groups. Those in each age/sex group are divided into three groups according to Medicare coverage: (1) those who are entitled to Part A coverage (the vast majority); (2) those who pay premiums for Part A coverage; and (3) those who are not covered. Trends in the percentage within each insurance group are examined, and then trend projections of the percentages are applied to the SSA projections of the number **in each age group**.

For **SSDI** beneficiaries, SSA projects the number of **SSDI** beneficiaries by length of time on **SSDI** and by sex, and HCFA uses the number who have been on **SSDI** for **two or more** years as its estimate of the number of **SSDI** beneficiaries who receive Medicare benefits. Other characteristics of the **SSDI** population, such as age and type of disability, are not taken into account.

SSA uses standard actuarial methods, that take into account fertility, mortality, net immigration, marriage, and divorce, to project the size of the population by sex and by annual years age, although published tables report only five-year age **intervals**.<sup>2</sup> Marital status (single, married, widowed, divorced) is also projected within each age-sex group.

SSA projects the **SSDI** population by sex, age, and length of time on **SSDI**.<sup>3</sup> Currently no projections are made by type of disability, but development of such projections is included in **SSA's** long-range plans.

### **C. Expenditures per Beneficiary**

**HCFA's** projections of Part B expenditures per beneficiary are based on an analysis of historical trends and other information about expenditures per beneficiary in five different expenditure categories: (1) physician services, (2) outpatient and other facilities, (3) home

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<sup>2</sup>The discussion in this paragraph is based on a telephone conversation with SSA's Alice Wade and her report for the 1989 projections (Wade, 1989).

<sup>3</sup>The discussion in this paragraph is based on telephone conversations with William Kelly and Ely Donkar at SSA. Kelly is responsible for long-range (11 or more years) **SSDI** forecasts. We have not yet had an opportunity to discuss the **SSDI** forecasts with the person in charge of the short-term forecasts (up to 10 years), Steven McKay, but expect to in the near future. Donkar provided information about SSA plans to forecast **SSDI** beneficiaries by **initial disability**. More **details of the current SSDI projections can be found in SSA (1984)**.

health agencies, (4) group practice, and (5) independent labs. The projections in categories (2) through (4) rely almost exclusively on the analysis of historical trends. The projections for category (1) use trend analysis to project changes in the proportion of users and the intensity of use; Medicare expenditures per service are predicted by using various economic assumptions along with planned changes in Medicare allowed charges, adjusted for deductibles and copayments. Projections for category (5) also use a combination of historical analysis of trends and economic analysis of fees.'

## **D. Discussion**

To summarize, **HCFA's** methodology for forecasting expenditures for a particular Part B benefit, such as mental health, relies on analysis of historical trends in expenditures for the benefit relative to total Part B expenditures and forecasts of total Part B expenditures. While this method has the virtue of being expedient, an obvious problem is that any errors in the **Part B** forecasts will be transmitted into the forecasts for the benefits under consideration. Projections of Part B expenditures rely heavily on: (1) the projections of beneficiaries obtained from SSA; (2) the estimation and projection of various trends; and (3) analysis of expected changes in allowed charges. All of these factors are relevant to the planned forecasts, and each is discussed below.

### **1. SSA Projections**

We assume that SSA projections of the **SSDI** and elderly populations will be the starting point for any projection of the future use of Part B benefits. These projections alone are the result of a major effort and are used for many other purposes; no doubt they have been subject to the intense scrutiny of others. HCFA accepts the SSA projections as they are, and it would be far beyond the scope of the evaluation to develop independent projections. This does not mean, however, that the SSA projections are consistently accurate, or that other information should not ~~be~~ used to supplement these projections.

If the SSA projections are relied on as the sole source of information about future Medicare beneficiaries, the only characteristics of future beneficiaries that can be predicted are sex, age, entitlement status, ESRD status (SSDI beneficiaries only), length of time on **SSDI** (SSDI beneficiaries only), and marital status (elderly beneficiaries only). Currently, Part

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'Information in this paragraph is based on a telephone conversation with Carter **Warfield**.



B forecasts ignore most of this **information**; only entitlement status, ESRD status, **and** length of time on **SSDI** are taken into account.

In some instances the analysis of trends accounts for trends due to predicted changes in the distributions of these characteristics, but, as we discuss further below, the ability of trend analysis to adequately take such changes into account is limited, at best, to instances when there is a smooth trend in the characteristics themselves over the recent past and on into the forecast period. The longer the forecast period, the more likely it is that the trend projections will be inaccurate.

Current Part B projections also ignore marital status, although marital status is available for the elderly. One reason for this may be that marital status does not appear in the various Part B data files. We do not know whether marital status is a good predictor of utilization and we suspect that the SSA forecasts of marital status are less reliable than the age forecasts. Hence, the fact that HCFA does not use marital status in its own Part B forecasts is of less concern than the fact that age is not used. We do not consider marital status further since it is not considered in the proposed evaluation due to the absence of marital status in the HCFA data. It may be, however, that marital status and, especially, changes in marital status (marriage, divorce, and death of a spouse) are important **determinants** of utilization of mental health services among Medicare beneficiaries. Marital status of Medicare beneficiaries could be determined by merging HCFA data with SSA data. This would require a merge that is above and beyond all of the merges that have been previously discussed, and thus does not appear to be worthwhile.

## 2. Trends

The use of trends to make projections assumes that the various forces which have combined to yield recent historical trends will continue to operate in the same way during the forecast period. In many instances this can be a reasonable assumption, particularly when the forecast horizon is not very far into the future and when it is known that key causes of the historical trend are themselves continuing. As a relevant example, it is widely believed that the stigma of using mental health **services** is gradually declining, and probably will continue to do so. This factor alone might explain at least a portion of recent trends in use of such services, and this portion of the trend might be reasonably expected to continue for a number of years into the future.

Unfortunately, in many cases historical trends can not be relied on to continue into the future because of changes in the factors that underlie those trends. A relevant example is the role that the changes in Part B mental health benefits are currently playing in determining current trends in use of mental health benefits. Once these benefits are fully in place and an adjustment period of perhaps a few years has gone by, we do not expect these changes to continue to contribute to trends in the use of mental health benefits. If in 1994, say, an attempt is made to forecast the use of Part B mental health benefits over the next five to ten years, and trends in utilization from the previous five years are used to make the forecast, forecasted growth in utilization would undoubtedly overstate actual growth.

Ideally, we would like to decompose historical trends into trends attributed to various factors (e.g., decline in stigma vs. changes in benefits vs. a number of other possible factors), then assess how each of these factors will contribute to future trends. Thus, we might assume that components of trends which are attributed to some factors (e.g., decline in stigma) would continue, but components of trends that are due to other factors (e.g., policy changes that have been completed) will stop. We can not attain this ideal, but perhaps some improvement over current methods can be attained without incurring unreasonable costs.

### 3. Analysis of Allowed Charges

The analysis of allowed charges is very problematic because it requires predictions of changes in medical prices and in HCFA's responses to these changes via changes in the rules that determine allowed charges. We find no discussion of the methods used in the 1992 Annual Report of the Board of Trustees of the Federal Supplementary Medical Insurance Fund. Based on conversations with HCFA personnel, we do know that some combination of trend analysis and "economic analysis" are used, but we know nothing about the nature of the latter. Presumably, numerous assumptions about future market place and regulatory changes must be made in order to make a projection.

#### 0.3 Proposed Forecast Method

The proposed method differs from HCFA's standard method in two significant ways. First, the forecasts for mental health utilization would be made independently of HCFA forecasts for total expenditures on Part B benefits. This will insure that errors made in the Part B projections will not be transmitted into the projections for mental health benefits. Second, the proposed method will use the substantial information obtained from the evaluation of the effects of the changes in Part B mental health benefits.

The proposed methodology has four stages:

1. Analysis of recent per capita utilization of covered Part B mental health services within various beneficiary groups, and projection of average utilization per beneficiary within each group.
2. Historical and other analysis of Medicare expenditure per service and projection of average expenditure per service.
3. Projection of the number of beneficiaries within each beneficiary group.
4. Projection of total utilization and expenditure, based on the results from the first three stages.

We discuss each stage of the analysis below. We then conclude with a discussion of possible simplifications.

#### A. **Per Capita Utilization of Covered Part B Mental Health Services**

Results from the tracking study will yield considerable relevant information about utilization of **Part B** mental health services. The tracking study will analyze changes in utilization by characteristics of beneficiaries as well as by type of service and provider specialty. It is not possible to predict the outcome of this analysis, and therefore it also is not possible to make detailed recommendations about how the results should be used to forecast utilization of services per capita. Hence, we limit the discussion to a general description of how the results could be used.

The beneficiary groups to be examined for this purpose are limited by the groupings in the SSA forecasts and by our ability to supplement those forecasts. Beneficiaries should first be grouped by sex and entitlement (aged, ESRD and SSDI, **SSDI** only), and then by five-year age groups within each sex/entitlement group. This grouping can be supported by the current SSA forecasts. It should be noted that although the tracking study will examine utilization by beneficiary characteristics, little analysis will be done in which beneficiaries are cross-classified by two or more characteristics. Hence, supplementary analyses in which beneficiaries are cross-classified by sex, entitlement, and age group will be necessary. The cost of this supplementary analysis will be minimal, given that the other analyses of the tracking study are to be done anyway.

Even though the SSA forecasts do not support classification by other characteristics, it may nevertheless be desirable to consider other characteristics in the historical analysis. One

particular characteristic of interest is type of disability for **SSDI** Medicare beneficiaries since we would expect persons who are initially classified as mentally ill to use more mental health services than others. In Chapter 5 we discussed the possibility of matching HCFA data to data from the SSA Master Beneficiary Record (MBR) in order to classify **SSDI** Medicare beneficiaries by disability at time of **SSDI** enrollment. If this is done, then the tracking study will produce information about use of benefits by disability for those beneficiaries on SSDI. We expect this analysis to show that those whose disability is classified as mental illness use Part B mental health benefits more than others, and that the growth in the relative size of this group will account for substantial increases in the use of Part B mental health benefits. The evaluation may also show interesting patterns in use among other disability groups. If our expectations are realized, it would be very desirable to forecast **SSDI** beneficiaries by **disability**, or at least by mental versus physical disability. A method that the evaluator could use for doing this is discussed in **Part C**, below; as mentioned above, SSA may be making such forecasts in the future.

As suggested in the discussion of the previous section, it would be a mistake to assume that trends found in the tracking study will continue into the future since the historical trends are likely to be at least in part due to the policy changes. If the evaluation is conducted using data through 1994 or later, we would expect that policy induced changes in utilization will have been completed. This may be evident in the last two years of the data. If the **tracking** analysis is continued beyond 1994, and forecasts are made on a regular basis, then it will become increasingly easier to separate policy induced changes in utilization from longer-term trends.

Projections of the future use of benefits could take into account provider type and/or type of service; however, the accuracy of such detailed projections is likely to be poorer than the accuracy of projections that do not consider such details, in part because sample sizes for detailed services will be smaller in the historical data. Even if there is no intention of forecasting detailed use of services, it will be valuable to examine historical details on use of **services** by type of provider and type of service since such analysis may help explain historical trends in overall use of services and help the evaluator determine to what extent these trends can be explained by the policy changes. For instance, for each beneficiary group we expect to see an increase in overall utilization of mental health services per capita, but it will be difficult to tell whether this can be entirely explained by changes in the benefits. If these changes are disaggregated into changes by specialty of provider, we may see that this growth can **be** largely accounted for by increases in services provided by clinical psychologists and clinical social workers, with possibly offsetting declines in services provided

by psychiatrists and other physicians, and for each specialty it may be evident that **year-to-**year changes have tapered off or stopped. If this result is consistent across beneficiary groups, it would be reasonable to conclude that per capita services within each group are likely to remain stable for some years into the future.

## **B. Expenditure per Service**

Projections of average Medicare expenditure per service would be based either on analysis of historical trends, on planned changes in the schedule of allowed charges, or on some combination of the two. The tracking study will examine the effect of the Resource Based Relative Value Scale (RBRVS, see Chapter 4) on charges and expenditures for mental health services. It is difficult to predict what will happen to the RBRVS schedule between now and the time that projections are actually made. If RBRVS is rigidly adhered to, it will be relatively easy to predict expenditures per service, but it is also possible that this will have an impact on utilization since RBRVS could reduce provider willingness to serve Medicare beneficiaries. The evaluator will need to obtain information from HCFA on HCFA plans for future changes in allowed charges.

## **C. Number of Beneficiaries**

The SSA forecasts of the elderly and **SSDI** beneficiaries (see Section 2.8, above) would be used as the basis for forecasts of the number of Part B beneficiaries. Beneficiaries would be grouped by sex, entitlement, and five-year age group. If SSA should forecast **SSDI** beneficiaries by disability, then beneficiaries should also be categorized by disability. For each group it will be necessary to determine the proportion who receive Part B benefits. This could be done by computing the ratio of the number of Medicare beneficiaries in the group during the last year of the tracking study to the SSA estimate of the number of persons in the group for the same year, and then multiplying the SSA projections of the number of persons in the group by the result. Additional analysis of the trend in the ratio of Medicare beneficiaries to SSA estimates could be conducted using data from earlier years of the tracking study.

If the tracking study makes it clear that it is essential to forecast **SSDI** beneficiaries by disability, the evaluator will need to develop forecasts using Master Beneficiary Record data. Briefly, this could be done by computing "survival probabilities" -- the probability that an **SSDI** beneficiary continues to be an **SSDI** beneficiary in the following year -- by sex, age, years on SSDI, and disability, from MBR data for the two most recent years. These probabilities would

then be repeatedly applied to the most recent MBR data on the **SSDI** population in order to generate a forecast.

To illustrate, suppose the most recent MBR data are for 1993 and 1994. Consider female **SSDI** beneficiaries who are classified as mentally ill. Let  $N(A, Y, L)$  represent the number of women in this group who are age  $A$  in year  $Y$  and who have been receiving **SSDI** benefits for  $L$  years. For instance,  $N(50, 1993, 3)$  is the number of 50-year old women in 1993 whose disability is a mental illness and who have received **SSDI** benefits for three years. Let  $P(A, L)$  be the survival probability for women whose disability is mental illness, are age  $A$ , and have been receiving **SSDI** benefits for  $L$  years;  $P(50, 3)$  is the probability that a 50-year-old woman in this group who has been receiving **SSDI** benefits for three years will still be in the group a year later. This probability would be estimated by  $P(A, L) = N(A+1, 1994, L+1)/N(A, 1993, L)$ . Thus,  $P(50, 3) = N(51, 1994, 4)/N(50, 1993, 3)$ . Once estimated, the probabilities would be applied to the 1994 data to predict 1995 values:  $N(A+1, 1995, L+1) = P(A, L) \cdot N(A, 1994, L)$ . For example, the number of 51-year old women who are classified as mentally ill and who will have received **SSDI** benefits for four years in 1995 is predicted by  $P(50, 3) \cdot N(50, 1994, 3)$ .

To complete the 1995 forecast, the number of women in each age group who will be first-year **SSDI** beneficiaries in 1995 must be projected. This can be done for each age by computing the 1994 ratio of first-year female **SSDI** beneficiaries whose disability is mental illness to the number of same-aged women in the population, then multiplying the result by the SSA forecast of the number of women in this age group in 1995. Once 1995 values are predicted, values for 1996 can be computed by applying the probability estimates to the 1995 predictions.<sup>5</sup>

Since **SSDI** beneficiaries must receive **SSDI** benefits for two years before they are eligible for Medicare benefits, the first two years of the forecasts will depend only on those who are already on **SSDI**. Hence, the method for estimating new beneficiaries by diagnosis will have no effect on the estimates until the third year of the forecast. Since third-year beneficiaries are a small fraction of all **SSDI** beneficiaries who have received benefits for two or more years, the impact of the estimates of first-year beneficiaries will still be very small in

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<sup>5</sup>The method described above will not work well if there are too few individuals in some of the age-sex-disability cells since estimates of some survival probabilities may not be very accurate. Various methods which serve to 'smooth' the estimated probabilities across cells can be used to solve this problem.

the third year of the forecast; it will gradually grow in importance as the forecast proceeds further into the future.

The feasibility of doing such a forecast depends on how expensive it would be to construct the necessary beneficiary counts from the MBR data (i.e., the values of the **N(A, Y, L)** for each of two years, by sex and diagnosis). If SSA can construct these values using existing programs to process the MBR data, then this may not be a very expensive proposition. Once these numbers and the SSA projections are available, a fairly simple computer program would have to be written to produce the forecasts.

Projections of other characteristics of the Medicare population could be constructed in a similar fashion, using characteristics that are available in the HCFA data. Region of the country, urban/rural residence, and race are all characteristics that might be considered.\*

#### **D. Total Utilization and Expenditure**

With the results from the first three stages in hand, projections of total utilization of services and expenditures can be calculated straightforwardly. Utilization projections are obtained for each forecast year by multiplying the projection of utilization per capita for each group by the projections of the number of beneficiaries in the same group, then adding the results across groups. Expenditure projections are then obtained by multiplying the utilization projection by the projection of expenditure per service. If services are projected by either type of provider or type of service, or both, the preceding steps would be followed for each type, and the totals for each type would then be added across types to get grand totals.

The results will be sensitive to the various assumptions that must be made in each of the first three stages. It will be essential to conduct sensitivity analyses, recalculating the forecasts under different sets of assumptions that are also reasonable. A standard procedure is to adopt three scenarios -- low, intermediate, and high. For the low scenario, assumptions that lead to low projections of utilization and expenditure are adopted; for the high scenario, assumptions that lead to high projections of utilization and expenditure are adopted; assumptions that are roughly half way between the high and low assumptions are used for the intermediate scenario.

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\*Barry Bye in SSA's Office of Research and Statistics should be consulted about the feasibility of forecasting **SSDI** beneficiaries by characteristics such as disability.

## **E. Simplifications**

In the above discussion, we have attempted to incorporate all the detailed knowledge of use of mental health benefits and of Medicare beneficiaries that appears to be available at reasonable cost. It is not clear, however, that forecasts which use all of this detail will be substantially superior to forecasts that use considerably less detail. In examining the tracking study results, the evaluator may find that little is lost by aggregation across two or more groups -- for instance, across adjacent age groups, or across sexes within age groups -- because results for the groups are so similar. Unless there is some reason to believe that strong similarities across the groups will not continue into the future, then the forecasts can be simplified by aggregating across those groups. The evaluator may also find that some groups **contain** very small numbers of observations in the tracking study; it would generally be wise to combine such groups with other groups so that the forecasts for those groups don't reflect unusually large sampling errors. It would also be reasonable to aggregate across groups if the relative numbers in the groups stay reasonably constant over the forecast period. Thus, for instance, if the beneficiary forecasts show that the proportion of beneficiaries of each sex will remain constant over the forecast period, there is little reason to use sex as a grouping characteristic in the forecasts. As the analysis proceeds, appropriate simplifications should become apparent.



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**APPENDIX**  
**SELECTED PAGES FROM MANUAL ISSUANCES**



## **APPENDIX**

### **SELECTED PAGES FROM MANUAL ISSUANCES**

The pages from HCFA manual issuances that follow detail the implementation of the benefit changes discussed in Chapter 2. A list of the pages included appears on the next page and the pages themselves follow.



## SELECTED PAGES FROM MANUAL ISSUANCES

### CONTENTS

<u>Item #</u>	<u>Subject</u>	<u>Date of Issuance</u>	<u>Manual Type</u>	<u>Sections Included</u>
1	Outpatient Psychiatric Services	December 1966	Intermediary	3112.7
2	Limitations on Expenses Incurred	June 1966	Carriers	2470
3	Outpatient Psychiatric Services	January 1969	Intermediary	3112.7, 3112.6
4	Computation of Reimbursable Charges; Diagnosis of Alzheimer's Disease; Management of Drug Therapies	May 1969	Intermediary	2472, 2476.2 - 2476.4
5	Coverage of Nurse Practitioner Services in <b>SNFs</b> and Nursing Facilities	April 1990	Carriers	<b>IM2156</b>
6	Psychological Tests, Clinical Psychologist Services, Clinical Social Worker Services	August 1990	Carriers	2070.2, 2150, 2152
7	Medical Review of Outpatient Hospital Claims	May 1991	Intermediary	3920.1 - <b>3920.2</b>
6	Partial Hospitalization Services Provided by <b>C/MHCs</b>	March 1992	Intermediary	3190
9	Partial Hospitalization Services Provided by <b>C/MHCs</b>	March 1992	Provider Reimbursement	2400 - 2404.2 2406 - 2406.6
10	Partial Hospitalization Services Provided by <b>C/MHCs</b>	March 1992	Outpatient Physical Therapy and CORF	IM205.6 <b>IM317.1</b>



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COVERAGE OF SERVICES

3112.7

Facilities who physicians are paid by the initial method may be **reimbursed** for its five sessions per week, 8 hours per session, intermittent peritoneal self-dialysis training program on the basis of a rate which does not exceed \$120 per session, or a total of \$600 per week, for each patient for the duration of that patient's training period. Facilities whose physicians are reimbursed under the alternative monthly method may be reimbursed for such a training program based on a rate which does not exceed **\$112** per session, or a total of \$560 per week, for each patient for the duration of that patient's training period. This rate reflects a reduction by a prorated amount of the usual \$12 per session reduction in facility reimbursement when its physicians are paid under the alternative method. If the facility does not provide laboratory services, then the screen is reduced by \$5, i.e., **\$115** per session under the initial method or \$107 per session under the alternative method.

### **3112.7 Outpatient Hospital Psychiatric Services.-**

A. General.-There is a wide range of services and programs that a hospital may provide to its outpatients who need psychiatric care, ranging from a few individual services to comprehensive, full-day programs; from intensive treatment programs to those that provide **primarily** supportive, protective or social activities. Because of this diversity, ensure that payment is made only **for** covered services that meet the requirements of the outpatient hospital benefit.

In general, to be covered the services must be: **(1)** incident to a physician's service (see **\$3112.4A**), and **(2)** 'reasonable and necessary for the diagnosis or treatment of the patient's condition. This means the services must be for the purpose of diagnostic study or the services must reasonably be expected to improve the patient's condition.

B. Coverage Criteria.-The services must meet the following criteria:

1. Individualized Treatment Plan.-Services must be prescribed by a physician and provided under an **individualized** written plan of treatment established by a physician after any needed consultation with appropriate staff members. The plan must **state** the type, amount, frequency, and duration of the services to be furnished and indicate the diagnoses and anticipated goals. (A plan is not required if only a few brief services will be furnished.)

2. Physician Supervision and Evaluation.—Services must be supervised and periodically evaluated by a physician to determine the extent to which treatment goals are being realized. • The evaluation must be based on periodic consultation and conference with therapists and *staff*, review of medical records, and patient interviews. Physician entries in medical records must support this involvement. The physician must also provide supervision and direction to any therapist involved in the patient's treatment and see the patient **periodically** to evaluate the course of treatment and to determine the extent to which treatment **goals** are being realized and whether changes in direction or emphasis are needed.

3. Reasonable Expectation of Improvement.-Services must be for the purpose of diagnostic study or reasonably be expected to improve the patient's condition. The treatment must, at a minimum, be designed to reduce or control the patient's psychiatric symptoms so as to prevent relapse or hospitalization, and improve or maintain the patient's level of functioning.

It is not necessary that a course of therapy have as its goal restoration of the patient to the level of functioning exhibited prior to the onset of the illness, although this may be appropriate for some patients. For many other psychiatric patients, particularly those with long-term, chronic conditions, control of symptoms and maintenance of a functional level to **avoid** further deterioration **or** hospitalization is an acceptable expectation of improvement. "**Improvement**" in this context is measured by comparing the effect of continuing treatment versus discontinuing it. Where **there** is a reasonable expectation that if treatment services were withdrawn the patient's condition would deteriorate, relapse further, or require hospitalization, this criterion would be met.

Some patients may undergo a **course** of treatment which increases their level of functioning, but then reach a point where further significant increase is not expected. Do not deny claims automatically because conditions have stabilized, or because treatment is now primarily for the purpose of maintaining present level of functioning. Rather, evaluate each case in terms of the criteria discussed above, and deny only where the evidence clearly establishes that the criteria are not met; for example, that **stability** can be ~~maintained~~ without further treatment **or** with less intensive treatment.

**C. Partial Hospitalization.**-**Partial** hospitalization is a general term that **encompasses** a variety of outpatient psychiatric programs; each of which can vary in their **functions**, the populations that they serve, their treatment goals and in the services that they provide. Depending on their functions, they may also be called day hospital/day treatment centers, or day care/night care centers. Within the same facility, there may be a number of programs operating, each of which may be aimed at a different population with a different level-of-care treatment program.

The Medicare law does not provide for the **coverage** of partial hospitalization programs per se. However, under the outpatient hospital benefit, those portions of the programs that fall within the requirements of the law may be covered. For coverage purposes, the key to whether a particular type or group of services and activities may be covered **will** depend primarily on the services provided in the program, and how the services are being used in the care of patients.

D. **Application of Criteria.**-The following discussion illustrates the application of the above guidelines to the more common modalities and procedures used in the treatment of psychiatric patients; and some factors to consider in determining whether the coverage criteria are met.

1. **Covered Services.**-Services generally covered for the treatment of psychiatric patients are:



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## COVERAGE AND LIMITATIONS

2470

2470. OUTPATIENT PSYCHIATRIC SERVICES LIMITATION-EXPENSES INCURRED FOR PHYSICIANS' SERVICES AND COMPREHENSIVE OUTPATIENT REHABILITATION FACILITY (CORF) SERVICES

Regardless of the actual expenses a **beneficiary** incurs for physician treatment of mental, psychoneurotic, **or** personality **disorders** while the beneficiary is not an inpatient of a hospital, the maximum amount of those expenses that may be counted in a calendar **year** for Part B deductible and reimbursement purposes is the lesser of 62.50 percent of the reasonable **charges** for those services, or a fixed dollar amount, as follows: \$312.50 in **any** year before 1988; \$562.50 in 1988; and \$1,375 in any year after 1988. This limitation **is** called **the** outpatient psychiatric services limitation. **Charges** for initial diagnostic services (i.e., psychiatric testing and evaluation to diagnose the patient's illness) **are** not **subject** to this limitation. **This** limitation **applies** only to therapeutic services and to follow-up diagnostic services performed to evaluate the progress of a coverage of treatment for a diagnosed condition, as described in S2476.4 of these instructions.

The \$312.50, \$562.50, **and** \$1,375 amounts represent 62.5 percent respectively of \$500, \$900, and \$2,200. **Therefore**, \$500, \$900, and \$2,200 are the **maximum** reasonable charges **for** outpatient psychiatric services that are covered **respectively** in **any** year before 1988, in 1988, **and in** any year after 1988. No reasonable charge determination is necessary regarding further outpatient psychiatric services furnished to a beneficiary in a calendar year once reasonable charges in the maximum amount applicable for that year have been processed.

Since the Medicare **program's share** of covered expenses after the deductible has been met is 80 percent of those **expenses**, the maximum annual payment is \$250 (80 percent of **\$312.50**), \$450 (80 percent of **\$562.50**), and \$1,100 (80 percent of \$1,375) **respectively** for any year before 1988, for 1988, **and for** any years after 1988. This maximum annual payment may be made only if the beneficiary fully meets the Part B cash deductible on the basis of **services not subject to the outpatient** psychiatric services limitation. If the **beneficiary** meets the deductible **solely on the basis of** expenses subject to the limitation, it will be **necessary to** deduct **\$75** from the applicable **fixed** dollar amount of that limitation before multiplying by 80 percent. Deducting \$75 from \$312.50, from \$562.50, **and** from \$1,375 **leaves** \$237.50, \$497.50, and \$1300 **respectively**. Thus, the maximum payment by **Medicare is** \$190 (80 percent of **\$237.50**), \$390 (80 percent of **\$487.50**), and \$1,040 (80 percent of \$1300) respectively for any year before 1988, for 1988, and for any year after 1988.

**If the** physician accepts assignment for services, which are counted toward the outpatient psychiatric services **limitation**, he may collect from the beneficiary only the difference between the Medicare payment **and** the reasonable charges for the services. Those **services** for which no Medicare payment is made or deductible credit given, because the **annual** maximum of outpatient psychiatric services reasonable charges has previously been **reached** in the year, **are** noncovered **services**, and are not **subject to the** reasonable charge **limitation** of an assignment.

While **physicians'** services **are** generally the only services that are subject to the outpatient psychiatric services limitation, **the** regulations which implement the **CORF** provision (see **S2220**) also apply this Emit to CORF services in connection with the treatment of mental, psychoneurotic, or personality disorders, whether **furnished** by physicians or **non-physicians**. In applying the Emit to CORF services, intermediaries use the customary charges for CORF services in determining the beneficiary's incurred expenses.

a. Individual and group therapy with physicians, **psychologists** or other mental health professionals authorized by the State.

b. Occupational therapy services are covered if they meet the criteria in **§3101.9. The services** must require the skills of a **qualified** occupational **therapist**, and be performed by or under the supervision of a qualified occupational therapist or by an occupational therapy assistant.

c. Services of social workers, trained psychiatric nurses and other staff **trained** to work with psychiatric patients.

d. Drugs and **biologicals** furnished to outpatients for **therapeutic purposes**, but only if they are of a type which cannot be self-administered. (See **§3112.4B.**)

e. Activity therapies but only those that are individualized and essential for the treatment of the patient's condition. The treatment plan must clearly justify the need for each particular therapy utilized and **explain how it fits** into the patient's treatment.

f. Family counseling services. Counseling services with members of the household are **covered** only where the **primary purpose** of such counseling is the treatment of the patient's condition. (See **Coverage Issues Manual §35-14.**)

g. Patient education programs, but only where the educational activities are closely related to the care and treatment of the patient. (See **Coverage Issues Manual §80-1.**)

h. Diagnostic services **for the purpose of** diagnosing those individuals for whom an extended or direct observation is necessary to determine functioning and interactions, to identify problem areas, and to formulate a treatment plan.

2. **Noncovered Services.**—The following are generally not covered except as indicated:

a. **Meals and transportation.**

b. Activity therapies, group activities or other services and programs which are **primarily** recreational or diversional in **nature**. Outpatient psychiatric day treatment **programs** that consist entirely of **activity** therapies are not covered.

“Geriatric day care” programs are available in both medical and nonmedical settings. They provide social and recreational activities to older individuals who need some supervision during the day while other family members are away from home. **Such** programs are not **covered** since they are not considered reasonable and necessary for a diagnosed psychiatric disorder, nor do such programs routinely have physician involvement.

Services which are covered under Part A or as part of another Part B benefit, such as services which are defined as facility services and subject to the ambulatory surgical center (ASC) payment rates or, in the case of patients who undergo diagnostic testing in a hospital outpatient department, routine preparation services furnished prior to the testing and recovering afterwards.

The following examples illustrate the application of this policy, including example 4, when a decision to admit the patient is clearly justified.

EXAMPLE 1: A patient comes to the emergency room complaining of difficulty in breathing. The patient is seen by the physician on duty, who orders laboratory tests, including a blood gas analysis, and an injection to help the patient breathe more easily. The physician then has the patient placed in an outpatient observation unit to determine whether this intervention produces normal breathing. Six hours later the patient is again seen by the physician, who determines from the patient's chart and his own observation that the patient's vital signs are normal and the patient has resumed normal breathing. The patient is released. Under these circumstances, the outpatient observation services are covered, and the bill submitted by the hospital may include charges for those services.

EXAMPLE 2: A patient comes to a hospital's outpatient department to undergo a scheduled surgical procedure which is not a **covered** ASC surgical procedure. After surgery, the patient is taken to the recovery room, where he exhibits difficulty in awakening from anesthesia and an elevated blood pressure. These conditions persist, and the patient is seen by a physician, who has him placed on observation. The physician leaves orders for the nursing staff to monitor the patient's condition and note any continued abnormalities that could indicate a drug reaction or other post-surgical complications. After a few hours, the patient no longer is lethargic, has a normal blood **pressure** and shows no other signs of post-surgical complications. The physician, upon being advised of these conditions, orders the patient released **from the hospital**. Under these circumstances, **coverage** of outpatient observation services begins when the patient was placed in the observation bed. Services received in the hospital's outpatient surgical suite and recovery room cannot be covered as observation services, since they are otherwise covered under Part **B**.

EXAMPLE 3: A patient is scheduled to have an uncomplicated cataract extraction on an outpatient basis. The patient *expresses* a preference for spending the **night** following the procedure at the hospital despite the fact that the procedure does not require an overnight stay. The hospital may register and treat the patient on an outpatient basis and permit the patient to remain at the hospital overnight. The overnight stay cannot be covered as observation

services because it is not medically necessary. (When this is the case, the patient must be notified that the overnight stay is not medically necessary and may be charged for the additional services. If unforeseen complications necessitate inpatient admission, the patient is admitted and a Part A claim is submitted.)

EXAMPLE 4: A patient comes to **the** emergency room in the evening **with complaints of** sudden **severe** flank pain which radiates to the inner thigh, nausea, vomiting, and urinary frequency and urgency, Examination reveals soreness over the kidney area, spasm of the abdominal muscles and microscopic **hema** turia. Additionally, an **X-ray** reveals the presence of a stone in the ureter. The patient was admitted to the hospital **as an** inpatient at **11 P.M.** He is treated with **I.V.** fluids, IM Morphine and an antispasmodic every 4 **hours**. Further diagnostic studies were scheduled for the following morning. During the night the patient passed a stone through the urethra without complications. The patient was then comfortable without nausea or urinary symptoms. Therefore, the patient was discharged at 9 a.m. and scheduled for follow-up in the physician's office. Although the patient was able to be discharged in less than 24 hours, the admission **was** appropriate, because it was reasonable to expect at the time of admission that the presenting problem would require more than 24 hours **to** resolve.

(If the year in question is 1987 or earlier year, the maximum covered charges are \$500 and with the application of the same computation procedure, the benefit payable is \$210. If the year in question is 1989 or later year, the charges of \$1,200, which are less than the maximum permissible covered charges, are fully covered and, with the application of the same computation procedure, the benefit payable is \$580.)

**EXAMPLE C:** Assume total physician psychiatric reasonable charges incurred while not a hospital inpatient to be \$35 and \$28 of nonpsychiatric expenses had previously been incurred and applied toward the deductible. The computation is as follows:

$\$35 \times .625 = 821.88$ . Since \$47 of the deductible remains unsatisfied, and only 821.88 may be applied to the \$47, the deductible has not been met and no payment is made.

**EXAMPLE D:** A beneficiary is receiving psychiatric treatment during 1989. He visits the psychiatrist's office once a week and the charge for each visit is \$75. The total reasonable charges for services through October 20 are \$1,050. On that date, he is hospitalized for an acute mental disturbance and continues to receive inpatient treatment through the end of the year. A Medicare Part B claim for \$1,750 in reasonable charges is submitted. There are no other medical expenses during the year. The total reasonable charges for services rendered while the beneficiary was not an inpatient are \$1,050. Multiply \$1,050 by 82.5 percent to obtain \$866.25. Subtract \$75 from \$866.25 to obtain \$791.25. Multiply \$791.25 by .80 to obtain \$633, the benefit payable for the outpatient psychiatric services. Since the remaining \$700 of reasonable charges for physician psychiatric services were incurred while the beneficiary was an inpatient, these remaining charges are fully reimbursable at the 80 percent rate to produce a Part B payment for these services of \$560. Thus, the total Part B payments for the year are \$633 plus \$560, or \$1,193. If the same situation occurred in 1988, the maximum reasonable charges for outpatient psychiatric services are \$900 and, following the computation procedure described, the benefit payable for those services is \$739. With \$560 payable in reasonable charges for inpatient physician psychiatric services, Part B payments for 1988 would be \$739 plus \$560, or \$1,299.

**EXAMPLE E:** A beneficiary incurs \$525 of physician outpatient psychiatric expenses in 1988 (or in a year before 1988 or in a year after 1988) and the deductible was previously satisfied through non-psychiatric expenses. However, the reasonable charges for the outpatient psychiatric services are found to be \$450. The computation is as follows:  $\$450 \times .625 = \$281.25$ . Since the entire deductible was previously satisfied, 80 percent of \$281.25, or \$225 can be paid by Medicare. Note that the computation is based on the reasonable charges rather than the actual expenses.

2476.2 Diagnosis of Alzheimer's Disease or a Related Disorder.—Where the primary diagnosis reported by the physician for a particular service is **Alzheimer's** Disease (coded 331.0 in the International Classification of Diseases, 9th Revision) or **Alzheimer's** or other disorders coded **290.XX** in the APA's Diagnostic and Statistical Manual-Mental Disorders, look to the nature of the service that has been rendered in determining whether it is subject to the benefit limitation. Typically, treatment provided a patient with a **diagnosis** of **Alzheimer's** Disease or a related disorder will represent medical management of the patient's condition (rather than psychiatric treatment) and will not be subject to the benefit limitation. However, where a particular treatment rendered a patient with **such a** diagnosis is primarily psychotherapy, it **will** be subject to the limitation.

2476.3 Brief Office Visits For Monitoring Or Changing Drug Prescriptions.—Brief office visits for the sole purpose of monitoring or changing drug prescriptions used in the treatment of mental, psychoneurotic and personality disorders are not subject to the benefit limitation. Report these visits using HCPCS code Q0044, "**Brief** office visit for the sole purpose of monitoring or changing drug prescriptions used in the treatment of mental, psychoneurotic and personality disorders." Claims where the diagnosis reported by the physician is a mental, psychoneurotic or personality disorder (**other** than a diagnosis specified in S2478.2) **will** be subject to the limitation unless it is submitted with HCPCS code Q0044.

2476.4 Diagnosis Does Not Clearly Meet the Definition.—Where it is not clear whether the primary diagnosis reported by the physician meets the definition of mental, psychoneurotic, and personality disorders, or if no physician's diagnosis is given, e.g., where a bill is submitted, it may be necessary to contact the physician to clarify the diagnosis. **In** deciding whether it is necessary to contact the physician in a given case, give consideration to such factors as the physician's specialty, the services rendered, the diagnosis, and the individual's previous utilization history.

A. Evidence Indicates Substantial Likelihood That Primary Diagnosis Meets Definition.—If, based on an evaluation of the factors in S2476.4 and any other pertinent information on file, you believe there is substantial likelihood that the individual has a condition which meets the definition of "mental, psychoneurotic, and personality disorders," contact the physician to ascertain whether this is actually the case.

B. Evidence Does not Indicate a Substantial Likelihood That Primary Diagnosis Meets the Definition.—If you believe that the available information does not provide a fairly strong indication that the individual was treated for a condition which meets the definition, presume that the physician's services were not in connection with the diagnosis and treatment of a mental, psychoneurotic or personality disorder and, therefore, are not subject to the psychiatric limitation. **This** would be the case where no diagnosis is given by the physician, and the patient's description of **his** condition does not suggest the fairly strong likelihood of a psychiatric diagnosis, and there is no other available information suggesting **the likelihood** of a psychiatric diagnosis.

Allied Health ProfessionalsIM2156. COVERAGE OF NURSE PRACTXTIONER SERVICES IN SKILLED NURSING FACILITIES  
AND NURSING FACILITIES

Effective April 1, 1990, the services performed by a nurse practitioner (**NP**) working in collaboration with a physician in a skilled nursing facility (**SNF**) or in a nursing facility that meets the definition of **\$1919(a)** of the Social Security Act (the Act) are covered as medical and other health services. (Payment instructions will follow shortly.)

A. Definition of a NP.—**For** his or her services to be covered, a NP must:

- o Be a **registered** professional nurse who is currently licensed to practice in **the State in** which the services are furnished;

- o **Satisfy** the applicable requirements for qualifications of **NPs of the State** in which **the services** are furnished; **and**

- o Meet at least one of the following requirements:

- Be currently certified as a primary care nurse practitioner by the American **Nurses'** Association or by the National **Board** of Pediatric Nurse Practitioners and Associates;

- Have satisfactorily completed a formal one academic year educational program for preparing registered nurses to perform an expanded role in the delivery of primary care that includes supervised clinical practice and at least 4 months (in the aggregate) of classroom instruction, and that **awards** a degree, diploma, or certification for successful completion of the program; or

- Have **successfully completed a formal educational program (that does not qualify under the immediately preceding requirement) for preparing registered nurses to perform an expanded role in the delivery of primary care and have been performing that expanded role for a total of 12 months during the 18-month period immediately preceding February 8, 1978, the** effective date for provision of the services of nurse practitioners as reflected in the Conditions for Certification for rural health clinics.

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B. **Covered Services.—Coverage** is limited to the services a NP is legally authorized to perform in accordance with State law (or State regulatory mechanism established by State law).

1. **General.**—The services of a NP provided in a facility may be covered under Part B if all of the following conditions are met:

- o They are the type that are considered physician's services if furnished by a doctor of medicine or osteopathy (MD/DO) (**see S2020** for physicians' services and **S2020.2** for the definition of an MD/DO);
- o They are performed by a person who meets the definition of a NP (see subsection A);
- o They are performed in collaboration with an MD/DO (**see** subsection C) in a SNF or nursing facility as described in subsection D; and
- o They are not otherwise precluded from coverage because of one of the statutory exclusions. (See subsection B.3.)

In addition, if covered NP services are furnished, then services and supplies that are furnished incident to the services of the NP may also be covered if the "incident to" requirements described in **S2050** are met.

2. **Types of NP Services that May Be Covered.—The** following services are only examples of the types of services that NPs may provide under the new amendment. **Familiarize** yourself with the appropriate State law or regulatory mechanism governing a NP's scope of practice for their service area. The development of a list of appropriate services may prove useful.

- o **Services** that traditionally have been reserved to physicians, such as physical examinations, minor surgery, setting casts for simple fractures, interpreting x-rays, and other activities that involve an independent evaluation or treatment of the patient's condition.
- o **Services and supplies furnished** "incident to" a NP's services that would have been covered if furnished "incident to" the services of an MD/DO, as described in **S2050**.

3. **Services Not Otherwise Precluded from Coverage.**—NP services may not be covered if they are otherwise excluded from coverage even though a NP may be authorized by State law to perform them. **For example, the Medicare law excludes from coverage "routine foot care" and "routine physical checkups" and**



services that **"are** not reasonable and necessary for the diagnosis or treatment of an illness or injury or to improve the functioning of a malformed body member." Also, payment cannot be made under Part B for services that could be covered under Part A as provided in **§1833(d)(2)** of the Act. Therefore, these services are precluded from coverage as NP services even though they may be within a **NP's** scope of practice under State law.

C. Collaboration.-The term **"collaboration"** means a process whereby a NP works with an MD/DO to deliver health care services within the scope of the practitioner's professional expertise, with medical direction and appropriate supervision as provided for in jointly developed guidelines or other mechanisms defined by Federal regulations and the law of the State in which the services are performed.

D. Site of Services.-Effective for the period April 1, 1990, through September 30, 1990, services of **NPs** provided under this amendment are covered only when furnished in **SNFs** that meet the definition for Medicare or Medicaid, or in intermediate care facilities (**ICFs**) (not including **ICFs** for the mentally retarded) that meet the definition for Medicaid. Effective on and after October 1, 1990, Medicaid facilities that meet the definition of **§1919(a)** of the Act will be known as "nursing facilities" (**NFs**) rather than as **SNFs** or **ICFs**. Accordingly, services of **NPs** provided under the new amendment are covered on or after October 1, 1990, only when furnished in facilities that meet the Medicare SNF definition at **§1819(a)** of the Act, or the Medicaid NF definition at **§1919(a)** of the Act.



# medicare

## Carriers Manual

### Part 3 - Claims Process

Department of Health  
and Human Services

Health Care Financing  
Administration

Transmittal No. 1361

Date AUGUST 1990

<u>REVISED MATERIAL</u>	<u>REVISED PAGES</u>	<u>REPLACED PAGES</u>
Table of Contents chapter II	2-1 - 2-2 (2 pp.)	2-1 - 2-2 (2 pp.)
Sec. 2070.2	2-34.1 - 2-34.2 (2 pp.)	2-34.1 - 2-34.2 (2 pp.)
Sec. 2150 - 2152 (Cont.)	2-86.3 - 2-86.6 (4 pp.)	2-86.3 - 2-86.6 (4 pp.)

CLARIFICATION--EFFECTIVE DATE: **NOT** APPLICABLE

Section 2070.2, Psychological Tests.-The **title** of this section has been changed from "Psychologists Practicing Independently" to more appropriately describe the benefit that is discussed within this section, and also to avoid confusing this diagnostic test benefit with the new benefit for **clinical** psychologists.

Section 2150, **Clinical** Psychologist Services.-The "**Consultation Requirement**" under subsection E. of this section has been expanded to elaborate on this requirement, and to provide background on the intent of Congress. **Also**, subsection G., "Outpatient Mental Health Services Limitation" has been revised for clarity.

CORRECTION-EFFECTIVE DATE: Services performed on or after July 1, 1990.

Section 2152, **Clinical Social** Worker Services.-The reference to services "incident to" the **services of clinical social** workers **contained** in subsection C. of Transmittal #1356 has been deleted. The "\*\*incident to" provision is not authorized by the OBRA '89 amendment to §1861(hh)(2) of the Act, and was inadvertently included in the initial transmittal. **Also**, subsection F., "Outpatient **Mental** Health Services Limitation" has been revised for clarity.

**This instruction should be implemented within your current** operating budget.

# medicare

## Carriers Manual

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**This instruction should be implemented within your current operating budget.**

## CHAPTER II

### COVERAGE AND LIMITATIONS

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laboratory technician to a facility (other than a hospital) for the purpose of performing a venipuncture or taking an EKG tracing is considered medically necessary only if (a) the patient was confined to the facility, and (b) the facility did not have on duty personnel qualified to perform this service. Where facility personnel actually obtained and prepared the specimens for the independent laboratory to pick them up, the laboratory provides this pickup service as a service to the facility in the same manner as it does for physicians.

[ 2070.2 **Psychological Tests.**-- The diagnostic services performed by a qualified **psychologist (who is not a clinical psychologist as defined in S2150.A)** practicing independently of an institution, agency, or physician's office are covered as "**other diagnostic tests**" if a physician orders such testing. A qualified psychologist is an individual who, if practicing in a State where statutory licensure or certification exists, holds a valid credential (as legally specified) for such practice. If practicing **elsewhere**, the psychologist must: (a) hold a doctoral degree in clinical psychology from an American Psychological Association approved program in clinical psychology or its equivalent; or (b) have recognition of competency through the American Board of Examinations for Professional Psychology or through endorsement by his State psychological association. For requirements concerning the services of clinical psychologists, see 52150.

To determine whether a particular independent psychologist is qualified, and thus entitled to have his diagnostic services covered under Part B, carriers in States which have statutory licensure or certification secure from the appropriate State agency a **current** listing of psychologists holding the required credentials. In States which lack statutory licensing and certification, check individual qualifications as claims are submitted. Possible reference sources are the national directory of membership of the American Psychological Association which provides data about the educational background of individuals and indicates which members are board-certified, and records and directories of the State psychological association. If qualification is dependent on a doctoral degree from a currently accredited program, verify the date of accreditation of the school involved since such accreditation is not retroactive. If the reference sources listed above do not provide enough information (e.g., the psychologist is not a member of the Association), contact the psychologist personally for the required information. You may wish to maintain a continuing list of psychologists whose qualifications have been verified.

NOTE: **Diagnostic** psychological testing services which meet the above requirements are covered as "**other** diagnostic **tests**" when performed by a qualified psychologist who is not a clinical psychologist. Where, however, the psychologist is not practicing independently, but is on the staff of an institution, agency, or clinic, that entity bills for the diagnostic services.

**Make** payment for diagnostic psychological services performed by qualified independent psychologists on the basis of the reasonable charge you determine. Expenses for such testing are not subject to the payment limitations on treatment for mental, psychoneurotic, and personality disorders. (See **S2470ff.**) The psychologist may accept assignment under the usual procedures or may bill the patient who then seeks payment from the program. Under either method, show the name and address of the physician **ordering** the tests.

Consider a psychologist as practicing independently where:

- o He renders services on his own responsibility, free of the administrative and professional control of an employer such as a physician, institution, agency;
- o The persons he treats are his own patients; and
- o He has the right to bill directly, collect and retain the fee for his services.

A psychologist practicing in an office located in an institution may be considered an independently practicing psychologist **when both of the** following **two** conditions exist:

- o The office must be confined to a separately identified part of the facility which is used solely as the psychologist's office and cannot be construed as extending throughout the entire institution; and
- o He carries on a private practice, i.e., services are rendered to patients from outside the institution as well as to institutional patients.

See **S5112** for determining reasonable charges for psychological tests.



Allied Health Professionals**2150 CLINICAL PSYCHOLOGIST SERVICES**

Section 6113(a) of OBRA 1989 (**P. L. 101-239**) eliminates the restriction on clinical psychologist (**CP**) services imposed by prior law, which required that the services be furnished at community mental health centers (**CMHCs**) or **offsite** of a CMHC for those who are institutionalized, or are physically or mentally impaired.

A CMHC is an institution that provides the mental health services required by **\$1916(c)(4)** of the PHS Act and that is certified by the appropriate State authorities as meeting such requirements. Clinical psychology services furnished to hospital inpatients are bundled under 42 CFH 411.15(m). Therefore, under the hospital bundling requirements, the services of a CP, or other practitioner, to an inpatient must be provided directly by the hospital or under an arrangement by which the hospital bills for such services.

The diagnostic services of psychologists who are not clinical psychologists, and who are practicing independently, are covered under **\$2070.2**.

A. Clinical Psychologist Defined.—To qualify as a CP, a practitioner must meet the following requirements:

- o Hold a doctoral degree in psychology from a program in clinical psychology of an educational institution that is accredited by an organization recognized by the Council on Post-Secondary Accreditation;
- o **Meet** licensing or certification standards for psychologists in independent practice in the State in which he or she practices; and
- o **Possess** 2 years of supervised clinical experience, at least one of which is postdegree.

B. Qualified Clinical Psychologist Services Defined.—Effective July 1, 1990, the diagnostic and therapeutic services of CPs and services and supplies furnished incident to such services are covered as are otherwise covered if the services were furnished by a physician or as incident to a physician's services. However, the CP must be legally authorized to perform the services under applicable licensure laws of the State in which they are furnished.

C. Types of Clinical Psychologist Services That May Be Covered.—CPs may provide the following services. Be familiar with appropriate State laws and/or regulations governing a CP's scope of practice. The development of lists of appropriate services may prove useful.

- o Diagnostic and therapeutic services that the CP is legally authorized to perform in accordance with State law and/or regulation. Pay all qualified CPs based on the fee schedule for their diagnostic and therapeutic services. Continue to pay those practitioners who do not meet the requirements for a CP on a reasonable charge basis for the provision of diagnostic services under **\$2070.2**.

o Services and supplies furnished "incident to" a **CP's** services are covered if the requirements that apply to services incident to a physician's services, as described in **S2050**, are met. These services must be:

Mental health services that are commonly furnished in physicians' offices;

An integral, although incidental, part of professional services performed by the CP;

Performed under the direct personal supervision of the CP, i.e., the CP must be physically present and immediately available; and

Either furnished without charge or included in the **CP's** bill.

Any person involved in performing the service must be an employee of the CP (or an employee of a legal entity that employs the supervising **CP**) under the common law control test of the Act, as set forth in 20 CFR 404.1007 and **SRS** 2101.020 of the Retirement and Survivors Insurance part of the Social Security Program Operations Manual System.

D. Noncovered Services.-The services of **CPs** are not covered if they are otherwise excluded from **Medicare** coverage even though a clinical psychologist is authorized by State law to perform them. For example, **S1862(a)(1)(A)** of the Act excludes from coverage services that are not "reasonable and necessary for the diagnosis or treatment of an illness or injury or to improve the functioning of a malformed body member." Therefore, the services of a CP that are determined to be not reasonable and necessary, even though the services are authorized by State law, are not covered.

E. Requirement for Consultation.-When applying for a Medicare provider number, a CP must submit to the carrier an attestation agreement to the effect that he or she must consult with the patient's attending or primary care physician in accordance with accepted professional ethical norms, taking into consideration patient confidentiality.

Section **6113(c)** of Public Law 101-239 requires the Secretary to develop criteria to pay for qualified psychologist services directly to the clinical psychologist under Part B. These criteria must address the circumstances under which the psychologist consults with the patient's attending physician. HCFA plans to undertake through rulemaking, the development of these criteria.

The conferees discuss in the conference report the consultation requirement. That report stipulates **that:**

o The CP has informed the patient of the desirability of conferring with the patient's **primary** care or attending physician to consider potential medical conditions contributing to the **patient's** condition; and

o The CP has provided written notification to the patient's designated attending or primary care physician that **services** are being provided to the patient, or has consulted directly with the physician to consider medical conditions that **may be** contributing to the patient's symptoms, unless the patient **specifically** requests that **such notice or consultation** not be made.

See H.R. Conf. Rep. No. 388, **101st Cong.**, 1st Sess. 789 (1989).

F. **Payment Limitation.**—Payment for the services of **CPs** is made on **the basis of a fee schedule** or the actual charge, whichever is less, and only on the basis of assignment.

G. **Outpatient Mental Health Services Limitation.**—All covered therapeutic services furnished **by qualified CPs are subject to the outpatient** mental health services limitation in **S2470ff** (i.e., **only 62 1/2 percent** of expenses for these services are considered incurred expenses for Medicare purposes). The limitation does not apply to diagnostic services. (See S2476.5).

H. **Assignment Requirement.**—Make all claims for covered services rendered by **CPs** on an assignment basis.

## 2152 CLINICAL SOCIAL WORKER SERVICES

Medical and other health services include the services provided by a clinical social worker (**CSW**). Payment is made only under assignment. The amount payable cannot exceed 80 percent of the lesser of the actual charge for the services or 75 percent of the amount paid to a psychologist for the same service. See S5112 for the payment guidelines and subsection F for application of the mental health payment limitation.

A. **Clinical Social Worker Defined.**—Section 1861(hh) of the Act defines a "**clinical social worker**" as an individual who:

- o Possesses a **master's** or doctor's degree in **social work**;
- o Has performed at least 2 years of **supervised** clinical social **work**; and
- o **Either**

- Is licensed or certified as a clinical social worker by the State in which the services are performed, or

**In the case of an individual in a State that does not provide for licensure or certification, has completed at least 2 years or 3,000 hours of post master's degree supervised clinical social work practice under the supervision of a master's level social worker in an appropriate setting such as a hospital, SNF, or clinic.**

**B. Clinical Social Worker Services Defined.**—Section 1861(hh)(2) of the Act defines "clinical social worker services" as those **services** that the CSW is legally authorized to perform under State law (or the State regulatory mechanism provided by State law) of the State in which such services are performed for the diagnosis and treatment of mental illnesses. Services furnished to an inpatient of a hospital or an inpatient of a SNF that the SNP is required to provide as a requirement for participation are not included. The services that are covered are those that are otherwise covered if furnished by a physician or as an incident to a physician's professional service.

**C. Covered Services.**—Coverage is limited to the services a CSW is legally authorized to perform in accordance with State law (or State regulatory mechanism established by State law). The services of a CSW may be covered under Part B if they are:

- o The type of services that are otherwise covered if furnished by a physician, or as incident to a physician's service. (See §2020 for a description of physicians' services and §2020.2 for the definition of a physician.);

- o Performed by a person who meets the definition of a CSW (see subsection A.); and

- o Not otherwise excluded from coverage.

Become familiar with the State law or regulatory mechanism governing a CSW's scope of practice in your service area. The development of a list of services within the scope of practice may prove useful.

**D. Noncovered Services.**—Services of a CSW are not covered when furnished to inpatients of a hospital or to Inpatients of a SNF if the services furnished in the SNF are those that the SNF is required to furnish as a condition of participation in Medicare. In addition, CSW services are not covered if they are otherwise excluded from Medicare coverage even though a CSW is authorized by State law to perform them. For example, the Medicare law excludes from coverage services that are not "reasonable and necessary for the diagnosis or treatment of an illness or injury or to improve the functioning of a malformed body member."

**F. Outpatient Mental Health Services Limitation.**—AH covered therapeutic services furnished by qualified CSWs are subject to the outpatient psychiatric services limitation in §2470ff (i.e., only 62 1/2 percent of expenses for these services are considered incurred expenses for Medicare purposes). The limitation does not apply to diagnostic services. (See §2478.5).

Item #7

# medicare

## Intermediary Manual

### Part 3 - Claims Process

Department of Health  
and Human ServicesHealth Care Financing  
Administration

Transmittal No. 1519

Date MAY 1991

<u>REVISED MATERIAL</u>	<u>REVISED PAGES</u>	<u>REPLACED PAGES</u>
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#### **NEW PROCEDURE--EFFECTIVE DATE: May 22, 1991**

**Section 3920, Medical Review of Outpatient Hospital Claims.--**Provides general guidelines for reviewing outpatient hospital services.

**Section 3920.1, Medical Review Guidelines for Outpatient Hospital Claims.--**Provides guidelines for reviewing specific hospital outpatient Part B services, i. e., diagnostic, therapeutic, specialized clinics, supplies, education programs, land and air ambulance, drugs, biologicals, and partial hospitalization services. Documentation requirements are specified.

**Section 3920.2, Outpatient Hospital Medical Review Selection Criteria.--**Provides direction for selecting outpatient service(s) (excluding physical therapy or ESRD services) for MR.

**Section 3921, Medical Review of Ambulance Services.--**Provides specific guidelines for reviewing air and land ambulance services.

These instructions should be implemented within your current budget.

**NOTE:** Obsolete IM 85-2 dated April, 1985 (\$IM 3412), IM 85-3 dated December, 1985 (\$IM 3491.4), IM 86-1 dated February, 1986 (\$IM 3441), and IM 86-5, dated May, 1986 (\$IM 3491).

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MEDICAL REVIEW

3920.1(Cont.)

o The frequency Of medical education should be medically reasonable to the goals of the program. Educational activities not closely related to the care and treatment of the patient, such as general public education on good nutrition and hygiene, are not medically reasonable of necessary.

I. Observation Room Services.--Review to ensure that the services are reasonable and necessary.

o They are covered only if they are reasonable and necessary to evaluate an outpatient's condition or to determine the need for admission. The services are also covered if they are provided on the order of a physician or other practitioner who is authorized to admit patients or to order outpatient tests;

o Services provided for the patient's or the physician's convenience are not covered;

o Services which are covered and paid for on another basis, such as those defined as facility services subject to the ASC payment rate, are not covered as observation services; and

o Routine preparation of swabs prior to testing and routine post testing services are not covered.

J. Outpatient Surgical Services and Ancillaries.--Ensure that the services and ancillaries are medically reasonable and necessary. (See 93626.4.)

\* K. Review of Outpatient Hospital Psychiatric Services.--Ensure that the psychiatric services are reasonable and necessary.

1. Psychiatric Coverage Criteria.--Services are covered if they are prescribed by a physician and the following conditions are met:

o Individualized plan of treatment (a plan is not required for a few brief services); and

o A plan of care must include the type, amount, frequency, and duration of services, including goals and diagnoses.

2. Documentation Includes.--

o Facility and patient identification (provider name, patient name, provider number, HICN, age);

o Physician referral and date; and

o Date of last certification.

3920.1(Cont.)

MEDICAL REVIEW

05-91

2D-9 codes  
200  
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o Diagnosis - this is the primary diagnosis for which outpatient hospital psychiatric services were rendered. Indicate other diagnoses or those that influence the primary diagnosis.

o Duration - the total length of time the services have been rendered (in days) from the date initiated. Includes the last day in the current billing period.

o Number of visits - the total number of patient visits completed since services were initiated. Includes the last visit in the billing period.

o Date of onset - the date of the primary diagnosis.

o Date treatment started - the date services were initiated.

o Billing period - when services began and ended in the billing period (from -through dates).

o Medical history - should include a brief description of the patient's psycho-functional status prior to the onset of the condition requiring services and any pertinent history prior to treatment.

o Initial evaluation and date - the initial evaluation performed at the facility.

o Plan of treatment and date established - should include specific goals and a reasonable estimate of when they are expected to be reached (e.g., 3-6 months). Includes specific therapies, e.g., creative art, music, movement, recreation therapy. Services must be prescribed by a physician and be individualized. There is no requirement that the physician who establishes or certifies the plan of care (POC) be the one who reviews the plan.

o Physician progress notes - should provide information on periodic evaluations, consultations, conferences with staff, and patient interviews. Notes should include diagnoses, an estimate of the duration of treatment and a description of how treatment goals are being realized and as well as POC changes.

o Medical record notes - should include a discussion of the individual's symptoms and present behavior, for example:

— Thoughts - disturbance in orientation to person, place, and time; retarded thought processes; impaired ability to process incoming information; blocking of thoughts; autistic thinking; suspiciousness, distorted, illogical thinking; fears etc.

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MEDICAL REVIEW

3920.1(Cont.)

-- Perception - • ppearance of listening to voices with inappropriate • ffect, etc.

-- Anxiety - intense • pprehension, palpitations, chest discomfort, obsessive compulsive behavior, etc.

-- Activity - withdrawal from relationships and contact with others; impairment in goal-directed • etiv%ty# purposeless movement much as pacing and mannerism; unpredictable behavior that may be related to delusions or hallucinations; impairment or absence of social skills; poor work history or hyperactivity.

-- Self care - neglectfulness; lack of motivation; impairment in bathing, grooming, etc.

-- Nutrition - unawareness of hunger or thirst; apathy to food at mealtime; fear of • Stizk\$, etc.

-- Sleep - disturbed sleep patterns; reluctance to go to bed at night or inability to awaken in morning, etc.

-- Family processes - demeaning of family with anger and blame, family conflicts and instability, etc.

Medical documentation may include, but is not limited to, daily outpatient logs, activity checklists, case management, nurse's, therapist's, and physician's notes. Documentation should include medication changes as well as therapy changes.

o Frequency and Duration - there are no specific time limits. Medical documentation should support the frequency and duration of services provided. When considering reducing the frequency of the services provided, consider how their reduction may lead to relapse or rehospitalization.

o Goals - should describe the control of symptoms and how they will maintain behavioral/functional levels.

-- Need *dot* be restorative;

-- Should be reasonable and relate to the individual's treatment need; and

-- Diagnostic studies should relate to the individual's treatment needs.

NOTE: Improvement is measured by comparing the • ffect of continuing treatment versus discontinuing it. Do not deny services because a therapeutic condition has stabilized or because treatment is primarily for maintaining the present level of functioning.



## 3920.1(Cont.)

## MEDICAL REVIEW

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Determine when it is established that the coverage criteria are not met; for example, that stability can be maintained without further treatment or with less intensive treatment.

3. Partial Hospitalization Services.--Partial hospitalization encompasses a variety of outpatient psychiatric programs each of which can vary in its function, the population served, the treatment goals, and the service provided.

Partial hospitalization programs must meet the documentation criteria outlined in §3112.7(C).

Review all services and procedures to determine whether a particular type of group of services/activities are medically reasonable and necessary and meet the coverage requirements. The following are usually part of a partial hospitalization program:

- o Individual and group therapy under the direction of physicians, psychologists or other mental health professionals authorized by the State;

- o Services of social workers or trained psychiatric nurses and other staff trained to work with psychiatric patients;

- o Drugs and biologicals furnished to outpatients for therapeutic purposes, but billable only if they cannot be self-administered;

- o Family counseling services only where the primary purpose is for the treatment of the patient's condition. (See Coverage Issues Manual §35-14.);

- o Patient education programs only where the educational activities are closely related to the patient's care and treatment. (See Coverage Issues Manual §80-1.); and

- o Diagnostic services tests used to diagnose or to determine a treatment plan.

Review specialized therapies such as creative art therapy, music therapy, movement therapy, and recreation therapy to determine if the overall benefits are appropriate to the treatment and goals prescribed. (Occupational therapy must be reviewed using the criteria in §3906.)

4. Noncovered Services.--The following are not covered:

- o Meals and transportation;

- o Activity therapies, group activities or other services and programs which are primarily recreational or diversional in nature;

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MEDICAL REVIEW

3920.2

o Day treatment programs often referred to as "geriatric day care" that consist entirely of activity therapies are not covered. These o uvioma provide o cia.l and recreational activities to individuals who need some supervision during the day while family members are away from home. Such programs are not reasonable and necessary and d o not have physician involvement;

o Psychosocial programs are community o uppert groups in nonmedical settings for chronically mentally ill persons for the purpose of social interaction. If an individual's outpatient hospital program consists entirely of psychosocial activities, it is not covered. Partial hospitalization programs may include some psychosocial components and to the extent they are not primarily for social or recreational purposes, they are covered; and

o Vocational training may include vocational and prevocational o eweemnt and training. Services related solely to o pscifio employment opportunities, work skills or work mattings are nut covered.

3. Biofeedback Therapy.--Biofeedback therapy is covered under Medicare only when it is reasonable and necessary for the re-education of specific muscle groups or treatment of pathological muscle abnormalities of incapacitating muscle spasm or weakness, and more conventional treatments (heat, cold, massage, o %orcioe, support) have been unsuccessful. It is not o covered treatment of ordinary muscle tension states or for psychosomatic conditions.

6. Chemical Dependency.--Diagnostic and therapeutic services for alcohol and/or drug dependency are covered. Review diagnostic services and therapeutic o msvicnn to ensure that they are reasonable and necessary for the treatment of the drug dependency problem.

7. Family Counseling.--Family counseling services are covered only where the primary purpose of the counseling is thm treatment of the patient's condition; that is, when there is a need to observe the patient's interaction with family members or to assess the capability of family members to aid in the patient's rehabilitation.

Family counseling services that are primarily directed toward the treatment of o family member's problem with respect to the patient's condition are not covered.

3920.2 Hospital Outpatient MR Selection Criteria.--The selection criteria below does not apply to: physical al therapy, speech pathology, occupational therapy, or 33RD services furnished on an outpatient basis. See \$93904, 3905, 3906, and 3907.a respectively for their review criteria.

## 3920.2(Cont.)

## MEDICAL REVIEW

OS-91

**A. Required Reviews.**--The following are required reviews:

o Determine if services bill.6 by . nonhospice provider during a period of hospice election are related to the terminal illness. Identify those claims by the Z trailer in the query reply or by CWF hospice reject or alert cod... This is a required review.

Automatically deny CWF rejects. They do not require MR.

o Review claims (other than CWF rejects) to determine if the outpatient hospital services are related to the individual's terminal illness.

o Request medical records only when you cannot make a determination as to whether or not the services provided were related to the individual's terminal illness. (Obtain medical information from the hospital.)

**NOTE:** Many illnesses are brought on by the underlying condition of the terminally ill patient. For example, it is not unusual for a terminally ill patient to develop pneumonia because of the weakened condition. Similarly, the setting of a bone after fractures occur in a bone cancer patient is treatment of a related condition.

Deny services related to the terminal illness. Pay services which are unrelated to the terminal illness.

o Ensure that you do not pay for excluded services identifiable through diagnostic codes, HCPCS or revenue codes. Where it is obvious from the code alone that the services are noncovered, the identification and denial of the service is a claims processing function. The review becomes medical review when, for example, a service otherwise covered can be covered in conjunction with other diagnoses or conditions and medical staff review is required to determine if conditions for coverage are met.

**B. Review Guides.**--Select additional services for review based on your knowledge or problem areas and your focused MR analysis. You may direct your review to certain providers. You are responsible for analysis of data to ensure that the review is effective and for modifying your parameters based upon your analysis. The following services have been identified as high volume, high cost, high potential of being noncovered or noncovered. Base your selection of any of these services upon your analysis of data and experience regarding the potential for noncovered care and cost effectiveness of review. (See §3939.)

**C. Medical Documentation.**--Once a claim has been selected for medical review, it is expected that sufficient documentation will be available to allow a medical necessity and coverage decision. If such a judgment can be made on the basis of information found on the bill, review the bill at level one using automated screens or clerks with appropriate parameters.



## FACSIMILE TRANSMISSION REQUEST

<b>ADDRESSEE:</b> (Name, Organization, Address) <i>Lisa Lang</i> <i>HHS-ASPE</i>		<b>FROM:</b> (Name, Organization, Address) <i>Lenn F. Rickrode</i> <i>HCF, BPO, OPO</i> <i>Dpp, PMRE</i>	
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# medicare

## Intermediary Manual

### Part 3 – Claims Process

**ADVANCE COPY  
OF FINAL ISSUANCE**

Department of Health  
and Human Services  
Health Care Financing  
Administration

#### INTERIM MANUAL INSTRUCTION

Transmittal No. **IM-92-**

Date **MARCH 1992**

#### REVISED MATERIAL

#### REVISED PAGES

#### REPLACED PAGES

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1 p.  
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#### **NEW PROCEDURES—EFFECTIVE DATE: October 1, 1991**

Section IM 3190, Partial Hospitalization Services Provided by Community Mental Health Centers (CMHCs).—Section 4162 of OBRA of 1990 (P.L. 101-508) provides Medicare Part B coverage for partial hospitalization services when provided by CMHCs.

Issues regarding bundling or unbundling of services by allied health professionals in partial hospitalization programs in CMHCs are not addressed in this instruction.

This instruction describes the partial hospitalization services specified by §1861(ff) of the Act and lists the requirements specified by §1916(c)(4) of the Public Health Service Act.

Claims for separate payment for services furnished in CMHCs by physicians or other health professionals (e.g., clinical psychologists or clinical social workers) must be submitted to curium and are processed by carriers in accordance with instructions in §§2151 and 2152 of the Medicare Carriers Manual.

Section IM 3651, Bill Review Instructions for Partial Hospitalization Services in Community Mental Health Centers.—This section implements bill review instructions for partial hospitalization services when provided by CMHCs. If CMHCs meet applicable State licensing or certification requirements, they will be assigned a provider number in the 4600-4799 range. Specialty intermediaries will not be assigned to process CMHC claims. They will be assigned to a regular intermediary.

Funding is available through the regular budget process for costs required for implementation.

Do not reopen cases unless they are brought to your attention.

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# **IM 3190 PARTIAL HOSPITALIZATION SERVICES PROVIDED BY COMMUNITY MENTAL HEALTH CENTERS (CMHCs)**

A. General.—Section 4162 of P.L. 101-508 (OBRA of 1990) amended §1861(ff)(3)(A) of the Act to include CMHCs as entities that are authorized to provide partial hospitalization services under Medicare Part B, effective October 1, 1991.

In general, to be covered, the services must be reasonable and necessary for the diagnosis or active treatment of a patient's condition. The services must be for the purpose of diagnostic study or they must be reasonably expected to improve or maintain the patient's condition and to prevent relapse or hospitalization. See S3112.76.3 for additional information concerning this requirement.

## **B. Community Mental Health Center Requirements.—**

1. Public 6881th Service Act Requirements.—In order for a CMHC to receive a grant from a State, §1916(c)(4) of the Public Health Service Act requires that the CMHC provide the following services:

- o Outpatient services, including specialized outpatient services for children, the elderly, individuals who are chronically ill, and residents of the CMHC's mental health services area who have been discharged from inpatient treatment at a mental health facility;

- o 24 hour a day emergency care services;

- o Day treatment, other partial hospitalization services, or psychosocial rehabilitation services;

- o Screening for patients being considered for admission to State mental health facilities to determine the appropriateness of such admission; and

- o Consultation and education services.

2. Provider Agreement Requirements.—Section 1866(e)(2) of the Act recognizes CMHCs as providers of services for purposes of provider agreement requirements, but only with respect to the furnishing of partial hospitalization services. CMHCs are paid on the basis of their reasonable costs for providing such services.

C. Coverage Requirements.—Partial hospitalization program services must meet the following requirements:

1. Individualized Treatment Plan.—Services must be prescribed by a physician and provided under an individualized written plan of treatment developed by a physician after any needed consultation with appropriate staff members. The plan must state the type, amount, frequency, and duration of the services to be furnished and indicate the diagnoses and anticipated goals.

These services must be periodically reviewed by a physician to determine the extent to which treatment goals are realized. The evaluation must be based on periodic consultation and conferences with therapists and staff, review of medical records, and patient interviews.



**2. Authorized Entities.**—A partial hospitalization program is a program that is furnished by a hospital to its outpatients or by a CMHC. It must be a distinct and organized intensive ambulatory treatment service offering less than 24 hour daily care.

**3. Licensing and Certification.**—A CMHC that provides partial hospitalization program services must meet the requirements of §1916(c)(4) of the Public Health Service Act (as specified in subsection B.1) and meet applicable licensing or certification requirements for CMHCs in the State in which it is located.

**D. Partial Hospitalization Services Defined.**—See the definition and listing of covered and noncovered partial hospitalization services in §§3112.7C and 3112.7D.1.

**E. Outpatient Mental -81th Treatment Limitation.**—The outpatient mental health treatment limitation does not apply to partial hospitalization services that are not directly provided by a physician. (In other words, the limitation does apply to partial hospitalization services furnished by a physician.) Therefore, do not apply the limitation to bills you receive from CMHCs for partial hospitalization services. However, physicians and certain other allied health professionals (e.g., clinical psychologists) have the option to bill the Part B carrier directly or authorize the CMHC to bill the carrier on their behalf for their professional services in CMHCs. Any physician or allied health professional services that are billed to a carrier are not partial hospitalization services. When a carrier is billed for these professional services, the services are subject to the provisions of the outpatient mental health treatment limitation.

**F. Other Coverage Issues.**—Professional services of physicians are • 1w8yr billed to the carrier and are not included in billing to an intermediary for partial hospitalization services.

While the services of allied health professionals are among the services included within the definition of partial hospitalization services in subsection D, services of certain • 11i.d health professionals (e.g., clinical psychologists and clinical social workers) may be covered separately under other provisions of the Medicare law. Under this separate statutory authority, services furnished by these health professionals may be billed directly to the Part B carrier with few restrictions on the setting in which the • uvicoruo rendered. This separate billing authority, taken in conjunction with the partial hospitalization benefit in CMHCs, has raised an issue of whether such services, when provided under a partial hospitalization plan should be bundled within the reasonable cost payments made to the CMHC for partial hospitalization services.

Bundling these services means that payment for services furnished to partial hospitalization patients by allied health professionals is only made to the CMHC on a reasonable cost basis through the fiscal intermediary. The allied health professional is prohibited from billing the carrier under Medicare Part B or the fiscal intermediary directly for services furnished under a partial hospitalization plan. Issues regarding bundling of services by allied health professionals in partial hospitalization programs in CMHCs will be resolved when they are addressed in the rulemaking that will establish regulations to govern this benefit.

In the interim, • 11imd health professionals authorized to bill Medicare Part B directly for their professional services will retain the option to bill Medicare Part B directly or to authorize the CMHC to bill Medicare Part B

for their professional services to partial hospitalization patients. Claims for separate payment under Medicare Part B for services furnished by allied health professionals in CMHCs are not considered partial hospitalization services and are billed to Medicare Part B carriers in accordance with instructions contained in §§2151 and 2152 of the Medicare Carriers Manual.

Alternatively, CMHCs may choose to bill for the services of allied health professionals who are employed or working under arrangements with the CMHC to furnish partial hospitalization services. In this case, pay the WC on the basis of its reasonable costs incurred in furnishing these and other partial hospitalization services.

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**CHAPTER VII**

**BILL REVIEW**

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**IM 3651. BILL REVIEW INSTRUCTIONS FOR PARTIAL HOSPITALIZATION SERVICES IN COMMUNITY MENTAL HEALTH CENTERS (CMHCs)**

**A. General.**—Medicare Part B coverage for partial hospitalization services provided by CMHCs is available effective for services provided on or after October 1, 1991, as described in IM §3190.

**1. Special Requirements.**—Section 1866(e)(2) of the Act recognizes CMHCs as "providers of services," but only for furnishing partial hospitalization services. (See §3112.7.C for the definition of partial hospitalization services.)

CMHCs that provide partial hospitalization services must meet the requirements under §1916(c)(4) of the Public Health Service Act and applicable State licensing or certification requirements for CMHCs in the State in which they are located. Provider numbers in the provider number range 4600 - 4799 will be assigned upon certification by the State Agency.

Medicare approval for this benefit is effective October 1, 1991, as long as the following conditions are met by the CMHC:

- 0 All Federal requirements are met by this date;
- 0 A request for Medicare participation is received prior to July 1, 1992; and
- 0 The CMHC selected October 1, 1991, as its effective date.

**NOTE:** If all Federal requirements are not met on the date the CMHC selected, the effective date depends upon when the CMHC meets all Federal requirements.

The effective date for CMHCs that request Medicare participation on or after July 1, 1992, will be the date the RO receives notification that all requirements are met if the State Agency certifies that all requirements are met on that date.

**C. Billing Requirements.**—CMHCs bill for partial hospitalization services on the HCFA-1450 under bill type 74X.

The acceptable revenue codes are as follows:

<u>Code</u>	<u>Description</u>
250	Drugs and Biological.
43x	Occupational Therapy
860	Medical Social Services
910	Psychiatric/Psychological Services
914	Individual Therapy
915	Group Therapy
916	Family Therapy
918	Testing
942	Education Training

Follow bill review instructions in §3604 with the exceptions in IM 3651.C. Advise your CMHCs of these requirements. CMHCs should complete the remaining items on the HCFA-1450 in accordance with the bill completion instructions in the Outpatient Physical Therapy/Comprehensive Outpatient Rehabilitation Facility Manual, §318. Furnish each CMHC with one copy of that manual.

**D. Payment.**—Section 1833(a)(2)(A) of the Act is the statutory authority governing payment for partial hospitalization services provided by a CMHC. Make payment on a reasonable cost basis. The Part B deductible and coinsurance apply.

During the year, make payment at an interim rate based upon a percentage of billed charges. Payment principles applicable to partial hospitalization services furnished in CMHCs are contained in the Provider Reimbursement Manual. Furnish each CMHC with one copy of that manual.

**E. Coordination with CWF.**—Use the MUOP record format. CWF began accepting provider numbers 4600-4799 for transmissions November 11, 1991, and later. All edits for bill type 74X apply, except provider number ranges 4600-4799 are acceptable ably for services provided on or after October 1, 1991.

**F. Medical Review.**—Medical review guidelines have not been established. Use the authority for focused medical review to determine what review is desirable.

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## Provider Reimbursement Manual

### Part 1

Department of Health  
and Human Services  
Health Care Financing  
Administration

**ADVANCE COPY  
OF FINAL ISSUANCE**

Transmittal No. 366

Date MARCH 1992

**REVISED MATERIAL****REVISED PAGES****REPLACED PAGES**

Sec. 2400 - 2404.2  
Sec. 2406 - 2406.6

24-3 - 24-3.1 (2 pp.)  
24-3.10 - 24-3.3 (4 pp.)

24-3 - 24-3.1 (2 pp.)  
24-3.10 - 24-3.3 (4 pp.)

**NEW IMPLEMENTING INSTRUCTIONS—EFFECTIVE DATE: October 1, 1991**

Section 4162 of OBRA 1990 (P.L. 101-508) amended §1866(e) of the Act to include community mental health centers (CMHCs) as a provider of services for purposes of furnishing partial hospitalization services. Section 4162 of OBRA 1990 authorizes Medicare Part B coverage for partial hospitalization services furnished by CMHCs, effective on or after October 1, 1991. Since these instructions are the first instructions issued regarding payment for partial hospitalization services furnished in CMHCs, and CMHCs are not currently being paid for partial hospitalization services, no retroactive adjustments are necessary.

Section 2402.1, Provider of Services.—This section has been revised to expand the definition of provider of services to include community mental health centers, but only with respect to the furnishing of partial hospitalization services.

Section 2406, Interim Rates.—This section has been revised to require expression of the interim rate for partial hospitalization services furnished by community mental health centers as a percentage of the center's aggregate customary charges for partial hospitalization services.

Section 2406.1, Interim Rate-Initial Reporting Period.—This section has been revised to show the initial establishment of the interim rate for partial hospitalization services furnished in community mental health centers at 70 percent of the aggregate customary charges for partial hospitalization services, but only until Medicare cost reporting forms and instructions for partial hospitalization services furnished in community mental health centers are developed and only if an interim rate cannot otherwise be established due to a lack of available information necessary to compute an interim rate.

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2400. **PRINCIPLE**

For cost reporting periods beginning prior to January 1, 1974, providers of services are paid **for services** furnished to program beneficiaries on the basis of reasonable cost as defined in 62102.1. For cost **reporting** periods beginning after December 31, 1973, subject to limitations on cost (see Chapter 25), **payment** is made on the **basis** of the lower of reasonable cost or customary charges made by the provider to the general public for the **same** services. (See Chapter 26.)

Public providers with a no-charge or nominal charge structure are not subject to the lower of reasonable cost or **customary** charges provision, but are subject to payment on the basis of reasonable cost as described in §2616.

2402. **DEFINITIONS**

2402.1 Provider of Services.--A provider of services means a hospital, skilled nursing facility, home health agency, **comprehensive** outpatient rehabilitation facility, rural **primary** care hospital, community mental health center (**CMHC**) for the limited purpose of furnishing partial hospitalization services, and, for the limited purpose of furnishing outpatient physical therapy or speech pathology services, a clinic, rehabilitation agency or public health agency.

2402.2 Participating Provider.--A participating provider is an **approved** provider of service which has entered into an agreement with the Department of Health and Human Services (a) to accept payment based on the reasonable cost of the items and services furnished; (b) not to charge the beneficiary or any other person for covered items and services, except deductibles and coinsurance amounts; and (c) to return any money incorrectly collected.

2402.3 Hospital for Emergency Services.--An **emergency** hospital is a nonparticipating hospital which has not entered into an agreement with the Department of Health and Human Services to participate in the program but may receive payment for covered services, in accordance with §2416, after complying with the appropriate statutory requirements and regulations.

2402.4 Federal Provider of Services.--A Federal provider of services may enter into an agreement as a provider **only if** the Secretary determines that it is providing services to the public generally as a community institution or agency. Payment is made in accordance with §2418.

2404. **PAYMENTS TO PROVIDERS**

Participating providers are paid **interim** payments on a monthly (or more frequent) **basis**. (See §2406.) These payments are based on an interim rate that approximates reasonable cost as nearly as possible. For cost reporting periods beginning after December 31, 1973, the **interim payments** are based on the reasonable cost of services, but may not exceed **customary** charges for the services. Under certain conditions, **accelerated** payments may be made to alleviate financial difficulty. (See §2412.)



Upon receipt of a **cost** report for the provider's Medicare cost reporting period, the intermediary **makes** a tentative or final retroactive adjustment. (See **\$2408.**)

**2404.1 Review of New Provider Fiscal Records.**—**Before** any program payments can be made to a newly participating **provider**, the provider **must permit** its **intermediary** to review its fiscal and other records **to assure** that the provider has an adequate ongoing **system for** furnishing the **records** needed to provide accurate **cost** data and other **information** capable of verification by qualified auditors and adequate for **cost** reporting purposes. The **intermediary**, through its **examination**, **must also** be assured the provider has no financial **arrangement** (e.g., with **owners**, related organization, **franchisor**, management consultant) which interfere with the **requirement that** Medicare **reimbursement be based on** the reasonable **cost** the provider incurs in furnishing covered **services** to program beneficiaries. Where the **provider's** recordkeeping capability does not meet program **requirements**, the **intermediary** of **fee** limited consultative services or **•** suggest revisions of the **provider's** **•** system as **necessary** to enable the provider to **comply** with **program requirements**. (See **\$2404.3.**)

**2404.2 Examination of Pertinent Data and Information.**—**Providers** asking to participate, as well as **those currently** participating, must permit the intermediary to examine **such** records and documents **as are deemed necessary** to establish that the provider has adequate **recordkeeping** capability, and to assure that program **payments are based on** an **interim rate which** approximates **• b** nearly as **possible** actual **program** payment due the provider for services **furnished** to Medicare beneficiaries. The **intermediary's** examination includes, but is not limited to, **matters** concerning **those records and documents** listed below. In addition, while examining these **records**, the intermediary develops a permanent file on each provider with pertinent information which can be updated for **use** during desk and field audit.

**A. Liability for Health Insurance Program Payments.**—The **intermediary** ascertains if the provider **has** taken over the operation of an institution from a provider that, as a **result** of **transfer**, lease, **sale** or other action, has terminated participation in the program. In such **•** situation, the intermediary must examine all documents related to the **transfer, lease, sale, or other action** to determine the liability of the various **parties** for **past or** future **program payments** in order to avoid underpayment or overpayments. Also, the proper legal name of the provider is obtained **• o** that the payee may be **correctly stated on** checks and **• o** that **program funds** are not incorrectly negotiated when an institution changes hands.



## 2406. INTERIM RATES

An interim rate for Part A inpatient hospital services (for hospitals not paid under the prospective payment system) may be expressed as a percentage of billed charges made for such services, or as an average cost per diem based on the estimated reasonable costs of these services. The interim rate for Part A posthospital extended care services must be expressed as an average cost per diem amount based on the estimated reasonable costs of the services. The interim rate for home health agency services covered under either Part A or Part B must be expressed as a percentage of charges billed for such services.

The interim rate for covered outpatient services and those medical and other health services furnished to inpatients under Part B must be expressed as a percentage of charges.

The interim rate for partial hospitalization services furnished in a community mental health center (CMHC) must be expressed as a percentage of the center's aggregate customary charge for the partial hospitalization services.

It is the policy of the Medicare program that each provider's current interim rate of payment approximate as closely as possible the reimbursable cost the provider is currently incurring in furnishing covered services to program beneficiaries; that the program be properly responsive to actual changes in a provider's reimbursable cost; and that the provider's current interim rate be timely adjusted to bring it into line with the estimated reimbursable costs for the period.

When the intermediary determines that a provider's current interim rate must be adjusted downward, the intermediary notifies the provider and, in addition to reducing the interim rate, recoups any excess payments made to the provider due to the incorrect rate. When the intermediary determines that a provider's current interim rate must be adjusted upward, the intermediary notifies the provider and, in addition to increasing the interim rate, disburses a lump sum interim payment, if necessary, in recognition of this adjustment in accordance with Q2406.4.

See §2406.6 with respect to the limitation on interim reimbursement.

2406.1 Interim Rate - Initial Reporting Period.--When a provider first participates in the program, an interim rate of payment may be established on any of the following bases:

A. The provider may be receiving payment from the intermediary or other third party payer on a cost or cost-related basis. The rate established for this purpose may be used, adjusted to the allowable cost under the program.

B. Where no organization is paying the provider on a cost or cost-related basis, the initial interim rate may be determined from the previous year's cost and statistical data illustrated as follows:

- |  |          |
|--|----------|
| 1. Operating expenses for most recent year   | \$ _____ |
| 2. Add or Deduct: Adjustment of expenses (See Schedule A-S, Form SSA-1562 for examples.) | \$ _____ |
| 3. Add or Deduct: Projected increases or decreases in allowable expenses                 | \$ _____ |
| 4. Add: Return on equity capital   | \$ _____ |
| 5. Total estimated allowable expenses  | \$ _____ |

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Calculation of Interim Reimbursement

	<u>Inpa-</u> <u>tient</u>	<u>Outpa-</u> <u>tient</u>	<u>Total</u>
6. (a) <b>Projected</b> total patient revenue	\$	\$	\$
(b) <b>Percentage</b>	%	%	%
7. Total • <b>allowable</b> cost - Line 5 x Line 6(b)	\$	\$	\$
8. Patient days		NA	NA
9. Interim rate <b>expressed as:</b>			
<b>Per diem</b> (Line 7 + Line 8)	\$	NA	NA
<b>Percentage</b> (Line 7 + Line 6)	%	%	%

C. Until Medicare cost **reporting forms and** instructions are developed for **partial hospitalization services furnished in CMHCs**, the interim rate for such services furnished in these centers **may be initially** • established at 70 percent of the aggregate customary **charges** for partial hospitalization services, but only if an interim rate cannot be established under subsections A or B due to a lack of available information **necessary** to compute an interim rate.

2406.2 Interim Rate for Newly Established Providers.--The intermediary uses one of the following **methods** to **determine an** appropriate interim rate for newly • established providers who **do not have cost experience** on which to base an interim rate of payment:

A. Use the interim rate • established for • provider who is comparable in substantially all relevant factors to the new **provider**.

B. Determine an interim rate based on the budgeted or projected costs in the **same manner as** illustrated in §2406.1.

After determining an interim rate, the intermediary reviews the provider's cost experience after a period of 90 days in the **program** and makes **appropriate** adjustment8 **if required**.

2406.3 Adjustment of Interim Rate.--An interim rate of payment may be adjusted at any time during an accounting period. Such adjustment may be made (a) upon request of the provider supported by a schedule showing that actual costs incurred to date plus • estimated costs to be incurred are significantly higher or lower than the computed one, or (b) if there is evidence available to the intermediary that • actual costs are significantly higher or lower than the computed rate.

2406.4 Retroactive Lump Sum Interim Payment.--A retroactive lump sum interim payment may be made at the request of the provider or by the intermediary on its own motion when the intermediary determines that interim payments to the provider during the current cost reporting period have been insufficient to reflect the provider's estimated reasonable costs.

The need for such retroactive payments may result, for example, from (1) an incorrect computation of the interim rate, (2) increases in specific operating

costs in the current operating period, such as retroactively effective salary and wage increases, (3) other **increases** in overall current operating costs not reflected in the current interim rate, or (4) upward adjustments to claimed costs as a result of desk **or** field audits of a provider's prior **period cost report**.

**Lump sum** interim payments made in **recognition of such** circumstances are based on a properly revised **current interim** rate and **cover** the **period from** the date of the rate revision retroactive to the **• uliest date in the current cost reporting period** to which the revised rate applies. This retroactive period covered by the lump sum **payment** does not go beyond the first day of the current **cost reporting** period, i.e., does not begin in a **prior cost reporting** period. **Where** a revised **interim rate** covers a period retroactive to a date in a prior **cost report period** ( 8 ) , **increased** payment due the provider for the **prior reporting period(r)** is made when settling the cost **report(m)** for that (those) period(s).

The purpose **of** these payments is to bring total **interim payment** during the current reporting period in line with estimated reasonable costs for the **period**.

2406.5 Interim Rates After Initial Reporting Period.-Interim rates of payment **for services** provided after the initial reporting **period** are established **on the basis of** the cost **report** filed for the **previous year** covering health insurance services. Upon the submission of **appropriate** evidence, the costs of the **prior period** are adjusted to reflect any anticipated **increase or decrease** in costs for the **current period**.

2406.6 Limitation on Interim Reimbursement.-When an **interim rate of** payment is expressed **as a** percentage of billed charges for covered services, the percentage cannot be set in excess of 100 percent, except for public providers rendering services at nominal **or no charges**. In this case, the percentage cannot exceed that amount which **would produce** interim payment **equal** to estimated reasonable cost **for** the public provider's services. (See §2616.)

Interim payment on an individual **Medicare** billing form cannot exceed the amount computed **by** applying the appropriate percentage to the billed **charges** for these services. When an interim rate of payment is expressed as an average cost per diem for **covered** services, interim **reimbursement on an individual Medicare billing form** is usually the lower of the amount computed by multiplying the number of **covered days times** the cost per diem **rate or** the provider's estimated **average per diem** charge for **covered services in** the current year. However, public providers rendering services at **nominal or no** charge receive interim payment equal **to the number** of covered days times the **• stituted** reasonable cost per diem rate.

If the **intermediary** discovers that during a cost reporting period, **for whatever** reason, a public **provider's** status has changed **to** the extent its charges no longer **qualify as** nominal, the interim payment is adjusted to **reflect** the computation as a nonpublic provider, as **discussed above**.

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# Outpatient Physical Therapy and Comprehensive Outpatient Rehabilitation Facility Manual

Department of Health  
and Human ServicesHealth Care Financing  
Administration**ADVANCE COPY  
OF FINAL ISSUANCE**

INTERIM MANUAL INSTRUCTION

Transmittal No. IM-92-1

Date MARCH 1992

**REVISED MATERIAL****REVISED PAGES****REPLACED PAGES**

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4 pp.

1 p.  
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for Interim Manual  
Instructions

**(FILE AT THE END OF CHAPTER III)**

Chapter III  
Sec. IM 317.1

1 p.  
2 pp.

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**NEW PROCEDURES--EFFECTIVE DATE: October 1, 1991**

Section IM 205.8, Partial Hospitalization Services Provided By Community Mental Health Centers (CMHCs).--Section 4162 of OBRA of 1990 (P.L. 101-508) provides Medicare Part B coverage for partial hospitalization services you provide.

This instruction describes the partial hospitalization services specified by §1861(ff) of the Act, lists the requirements specified by §1916(c)(4) of the Public Health Service Act and contains coverage requirements and limitations on partial hospitalization services.

Section IM 317.1, Billing Instructions for Partial Hospitalization Services Provided in-Community Mental Health Centers.--This section implements billing instructions for partial hospitalization services you provide. If, you meet applicable State licensing or certification requirements, you will be assigned a provider number in the 4600-4799 range. Specialty intermediaries will not be assigned to process your claims. In other words, you will be assigned to regular intermediaries.

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**CHAPTER II**  
**COVERAGE OF SERVICES**  
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③ 4/4/2004

IM 205.8 Partial Hospitalization Services Provided by Community Mental Health Centers (CMHCs).--

**A. General** .--Section 4162 of P.L. 101-508 (OBRA of 1990) amended §1861(ff)(3)(A) of the Act to include CMHCs as entities that are authorized to provide partial hospitalization services under Medicare Part B, effective October 1, 1991.

In general, to be covered, the services must be reasonable and necessary for the diagnosis or active treatment of a patient's condition. The service must be for the purpose of diagnostic study or they must be reasonably expected to improve or maintain the patient's condition and to prevent relapse or hospitalization.

It is not necessary that a course of therapy have, as its goal, restoration of the patient to the level of functioning exhibited prior to the onset of the illness, although this may be appropriate for some patients. For many other psychiatric patients, particularly those with long term, chronic conditions, control of systems and maintenance of a functional level to avoid further deterioration or hospitalization is an acceptable expectation of improvement. "Improvement" in this context is measured by comparing the effect of continuing treatment versus discontinuing it. Where there is a reasonable expectation that if treatment services were withdrawn the patient's condition would deteriorate, relapse further, or require hospitalization, this criterion is met.

Some patients may undergo a course of treatment which increases their level of functioning but then reach a point where further significant increase is not expected. Continued coverage may be possible even though the condition has stabilized or treatment is primarily for the purpose of maintaining the present level of functioning. Coverage is denied only where evidence shows that the criteria discussed above are not met, e.g., that stability can be maintained without further treatment or with less intensive treatment.

**B. Community Mental Health Center Requirements.**?

1. Public Health Service Act Requirements.--In order for a CMHC to receive a grant from a State, §1916(c)(4) of the Public Health Service Act requires that the CMHC provide the following services:

Outpatient • service, including specialized outpatient services for children: the elderly, individuals who are chronically ill, and residents of the CMHC's mental health • service area who have been discharged from inpatient treatment at a mental health facility;

o 24 hour a day emergency care services;

o Day treatment, other partial hospitalization services, or psychosocial rehabilitation • service;

o Screening for patients being considered for admission to State mental health facilities to determine the appropriateness of such admission; and

o Consultation and education • service.



2. Provider Agreement Requirements.—Section 1866(e)(2) of the Act recognizes CMHCs as providers of services for purposes of provider agreement requirements but only with respect to the furnishing of partial hospitalization services. CMHCs are paid on the basis of their reasonable costs for providing such services.

C. Coverage Requirements.—Partial hospitalization program • services must meet the following requirements:

1. Individualized Treatment Plan.—Services must be prescribed by a physician and provided under an individualized written plan of treatment established by a physician after any needed consultation with appropriate staff members. The plan must state the type, amount, frequency, and duration of the services to be furnished and indicate the diagnoses and anticipated goals.

These services must also be supervised and periodically reviewed by a physician to determine the extent to which treatment goals are realized. The evaluation must be based on periodic consultation and conferences with therapist and staff, review of medical records, and patient interviews.

2. Authorized Entities.—A partial hospitalization program is a program that is furnished by a hospital to its outpatient or by a CMHC. It must be a distinct and organized intensive ambulatory treatment service offering less than 24 hour daily care.

3. Licensing and Certification.—A CMHC that provides partial hospitalization program services must meet the requirements of §1916(c)(4) of the Public Health Service Act (as specified in subsection B.1) and meet applicable licensing or certification requirements for CMHCs in the State in which it is located.

D. Outpatient Mental Health Treatment Limitation.—The outpatient mental health treatment limitation does not apply to partial hospitalization services that are not directly provided by a physician. (In other words, the limitation does apply to partial hospitalization services furnished by a physician.) However, physician and certain other allied health professionals (e.g., clinical psychologists) have the option to bill the Part B carrier directly or authorize you to bill the carrier on their behalf for their professional services in CMHCs. Any physician or allied health professional services that are billed to a carrier are not partial hospitalization services. When a carrier is billed for these professional services, the services are subject to the provision of the outpatient mental health treatment limitation. Accordingly, only 62 1/2 percent of expenses subject to the limitation are considered as incurred expenses.

E. Partial Hospitalization Defined.—Partial hospitalization is a general term that encompasses a variety of outpatient psychiatric programs which can vary in their functions, the populations served, treatment goals and in the services provided. Depending on their functions, they may also be called day hospital/day treatment centers or day care/night care centers. Within the same facility, there may be a number of programs operating, each of which may be aimed at a different population with a different level of care treatment program.



**F. Partial Hospitalization Services.** -Under section 1861 (ff) (2) of the Act, partial hospitalization **services** are **listed as** follows:

- o Individual **and group** therapy with physicians or psychologists (or other **mental** health professionals to the extent authorized under State law);

- o Occupational therapy requiring the skills of a qualified occupational therapist;

- o **Services of social workers, trained psychiatric nurses, and other staff** trained to work with **psychiatric** patientr;

- o Drugs and biologicals furnished **for** therapeutic **purposes** (which cannot, **as** determined in accordance with regulatione, be self-administered);

- o Individualized activity therapies that are not primarily recreational or diversionary;

- o **family counseling** (the **primary purpose of** which **is** treatment of the **individual's** condition);

- o Patient training and education (to the extent that training and **educational** activities are closely and clearly related to individual's care and **treatment**); and

- o Diagnostic services.

**G. Noncovered Services.** -The following are not covered except as indicated:

- o Meals and **transportation.**

- o Activity therapies, group activities **or** other services **and** program which are primarily recreational **or** diversional in nature. Outpatient psychiatric day treatment programs that consist entirely of activity therapies are not covered.

"Geriatric day **care**" programs are available in both **medical and nonmedical settings.** They provide **social** recreational activities **to** older individuals who need **some** supervision during the day while other family **members are** away **from home.** Such **program** are not covered mince they are not considered reasonable and **necessary for a** diagnosed psychiatric disorder, nor do **such** programs routinely have **physician involvement.**

- o Psychosocial program. These are generally **community support** groups **in a nonmedical** setting **for** chronically mentally ill persons for the purpose of **social** interaction. Partial hospitalization **program may** include **some psychosocial** components. They are covered to the extent theme component8 are not primarily for • ocial or recreational purposes. However, if an **individual's** partial hospitalization **program consists** entirely **of** psychosocial activities, it is not covered.

- o Vocational training. While occupational therapy -may include vocational and prevocational **assessment** and training, the **services ue** not covered when related • **olely** to **specific** employment **opportunities,** work • killr or **work** mettings.

H. **Other Coverage Issues.**--Professional services of physicians are **always** billed to the **carrier** and are not included in billing to an intermediary for partial hospitalization **services**.

While the services of allied health professionals are among the services included within the definition of partial hospitalization services in subsection F, services of certain allied health professionals (e.g., clinical psychologists and clinical social workers) can be covered separately under other provisions of the Medicare law. Under this separate statutory authority, services furnished by these health professionals may be billed directly to the Part B carrier with few restrictions on the setting in which the services are rendered. This separate billing authority, taken in conjunction with the partial hospitalization benefit in CMHCs, has raised an issue of whether such services, when provided under a partial hospitalization plan, should be bundled within the reasonable cost payments made to the CMHC for partial hospitalization services.

Bundling these services means that payment for services furnished to partial hospitalization patients by allied health professionals is only made to the CMHC on a reasonable cost basis through the fiscal intermediary. The allied health professional is prohibited from billing the carrier under Medicare Part B or the fiscal intermediary directly for services furnished under a partial hospitalization plan. Issues regarding bundling of services by allied health professionals in partial hospitalization programs in CMHCs will be resolved when they are addressed in the rulemaking that will establish regulations to govern this benefit.

In the interim, allied health professionals authorized to bill Medicare Part B directly for their professional services retain the option to bill Medicare Part B directly or to authorize the CMHC to bill Medicare Part B for their professional services to partial hospitalization patients. Claims for separate payment under Medicare Part B for services furnished by allied health professionals in CMHCs are not considered partial hospitalization services and are billed to Medicare Part B carrier in accordance with instructions contained in §§2151 and 2152 of the Medicare Carriers Manual.

Alternatively, CMHCs may choose to bill for the services of allied health professionals who are employed by or working under arrangements with the CMHC to furnish partial hospitalization services. In this case, the Medicare intermediary pays you on the basis of your reasonable costs incurred in furnishing these and other partial hospitalization services.

# CHAPTER III

## BILLING PROCEDURES

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Billing **Instructions** for Partial **Hospitalization Services**  
Provided in Community Mental Health **Centers (CHMCs)....IM 317.1**

IM 317.1 Billing Instructions for Partial Hospitalization Services, Provided in Community Mental Health Centers (CMHCs).--

**A. General.**--Medicare Part B coverage for partial hospitalization services provided by CMHCs is available effective for services provided on or after October 1, 1991, as described in IM 8205.8.

**B. Special Requirements.**--Section 1866(e)(2) of the Act recognizes CMHCs as "providers of services" but only for furnishing partial hospitalization services. (See IM 6205.8 for the definition of partial hospitalization services.)

If you are a CMHC and provide partial hospitalization services, you must meet the requirements under §1916(c)(4) of the Public Health Service Act, and applicable State licensing or certification requirements for CMHCs in the State in which you are located. Upon certification by the State Agency, you will be assigned a provider number in the provider number range 4600 - 4799. Use this number to bill your intermediary for partial hospitalization services.

Medicare approval for this benefit is effective October 1, 1991, as long as you meet the following conditions:

- o All Federal requirements are met by this date;
- o Your request for Medicare participation is received prior to July 1, 1992; and
- o You selected October 1, 1991, as your effective date.

**NOTE:** If all Federal requirements are not met on the effective date you selected, your effective date will be the date you meet all Federal requirements.

If you request Medicare participation on or after July 1, 1992, your effective date will be the date your RO receives attestation that all requirements are met if the State Agency certifies that all requirements are met on that date.

**C. Billing Requirements.**--Bill for partial hospitalization services on the HCFA-1450 under bill type 74X.

The acceptable revenue codes are as follows:

<u>Code</u>	<u>Description</u>
250	Drugs and Biologicals
43x	Occupational Therapy
560	Medical Social Services
910	Psychiatric/Psychological Services
914	Individual Therapy
915	Group Therapy
916	Family Therapy
918	Testing
942	Education Training

Follow bill completion instructions in §318 with the exceptions in IM 317.1C.



D. Payment. --Section 1833 (a)(2)(b) of the Act is the statutory authority governing payment for partial hospitalization services provided by a CMHC. Your intermediary will make payment to you on a reasonable cost basis for partial hospitalization services. The Part 8 deductible and coinsurance apply. During the year, your intermediary will make payment at an interim rate based upon a percentage of your billed charges. At the end of the year, you will be paid the reasonable costs incurred in furnishing partial hospitalization services, based upon the Medicare cost report you file with your intermediary. Reasonable cost payment principle applicable to partial hospitalization services are contained in the Provider Reimbursement Manual. Contact your intermediary for a copy of this manual if you do not have one.